DATE: 5/04/2006

INVITATION TO BID
THIS IS NOT AN ORDER

BID NO.: 50-00079408

JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETNA, LA. 70054-0009
504-364-2678

VENDOR:

BUYER: LHefti

BIDS WILL BE RECEIVED IN THE PURCHASING DEPARTMENT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETNA, LA 70053 UNTIL 2:00 PM, 6/13/2006 AND PUBLICLY OPENED UPON COMPLETION OF ADMINISTRATIVE TASKS.

LATE BIDS WILL NOT BE ACCEPTED

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES DISQUALIFY BID.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

THE FOLLOWING INSTRUCTIONS APPLY TO ALL BIDS

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. THIS BID PACKAGE MUST BE RETURNED IN ITS ENTIRETY.

Questions on this bid are to be faxed to (504) 364-2693 no later than FIVE (5) working days prior to bid opening. Bid numbers should be mentioned in all requests.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal. JEFFERSON PARISH will accept one bid only from each vendor. Items bid must meet or exceed specifications.

JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection.

If the bid exceeds $20,000.00 and the bidder is an agency, corporation, partnership, or other legal entity, the president, vice-president, secretary/treasurer, or an authorized agent, shall sign the proposal, and satisfactory evidence of the authority of the person signing for the agency, corporation, partnership, or other legal entity shall be attached to the proposal.

AWARD OF CONTRACT: JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE.

Preference is hereby given to materials, supplies and provisions produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside the state. "LSA-R.S.38:2251-2261"

USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

PRICES: All prices shall be quoted in the unit of measure specified, and unless otherwise specified, shall be exclusive of State and Parish taxes. As per LSA-RS 47:301 et seq., all governmental bodies are excluded from payment of sales taxes to any Louisiana taxing body. All quotations shall be based on F.O.B. Agency warehouse or job site, anywhere within the Parish as designated by the Purchasing Department.

CANCELLATION OF CONTRACT: JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at anytime and for any reason by issuing a THIRTY (30) day written notice to the contractor.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

JEFFERSON PARISH requires a firm price. Quoted price will remain firm until _____

For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from particpation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations.

New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A117.1-1961).

RESPONSE TO INVITATION: If your company is unable to bid on this request, please state your reason on bid form, and return to this office before bid opening date. Failure to do so may result in the removal of your company from all future bids.

The general specifications for construction projects and the purchase of materials, services and/or supplies are those adopted by the JEFFERSON PARISH Council by Resolution No. 95466, dated January 23, 2002. The general conditions adopted by this resolution shall be considered as much a part of this document as if they were written wholly herein. A copy may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053.

POSTING OF BIDS: Non-Advertised bids will be posted on bulletin board outside of Suite 4400, Jefferson Parish General Government Building, Gretna, LA, for a period of Five (5) working days after opening date.

Advertised bids will be tabulated and a copy forwarded to each responsive bidder.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

2,3,5,6,7,8,9,10,11,12,13,14,15

1. All bidders are invited to attend the pre-bid conference. Failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. This conference is held to allow questions to be answered and inspect the site with owner's representative, etc. Failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification (with no additional cost to the owner).

2. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project.

3. A Louisiana state contractor's license may be required in accordance with LSA-R.S. 37:2150 et seq.

4. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

5. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.

6. All awards in excess of $5,000.00 for the construction, alteration, or repair of any public works will be reduced to a formal contract which shall be recorded at the contractor's expense. A price list of recordation costs may be obtained from the Clerk of Court and Ex-officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of $25,000.00 reduced to formal contract will require a performance bond.

7. A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. Performance bond shall be supplied at the signing of the contract.

8. Please indicate if you have insurance: YES _____ NO _____
Successful bidder will be required to furnish proof of insurance to this office.
Successful bidder will be required to furnish Federal I.D. Number.

9. Minimum insurance requirements for this bid are as indicated on the attached sheet.

10. Each bid must be accompanied by a cashier's check, certified check, money order, or surety bid bond in the amount of 5% of the bid.

11. Affidavit required to be submitted with bids on all solicitations for construction, alteration or demolition of public building or project. (LSA-R.S. 38:2224)

12. This is a requirements contract to be provided on an as needed basis.

13. Indicate if price will hold firm for _____ year(s) from date of contract or blanket purchase order:

    YES _____ NO _____

    If price is not firm, escalation must be clearly defined below as to maximum % increase anticipated and if bid is accepted, any increase thereafter must be supported in writing to the JEFFERSON PARISH Purchasing Department.

    QUOTED PRICE WILL REMAIN FIRM UNTIL DATE: _____

    WITH MAXIMUM ESCALATION PERCENTAGE OF: _____

    FROM DATE OF: _____ TO DATE OF: _____

    but in no event to exceed the change in the United State Bureau or Labor Statistics Consumer Price Index and/or Wholesale Price Index during the contract period. See LSA-R.S. 38:2212 A (2).

    In the event that the successful bidder cannot furnish a specific item or material and labor in the required time, JEFFERSON PARISH may purchase on an emergency basis from the next lowest bidder, or available source, until such time as the successful bidder has notified the PARISH in writing that his stock or labor capability has been replenished. The difference in price will be charged against the successful bidder of this contract, and evidence of purchases and price will be provided.

14. Vendor will be required to submit to the chief buyer of the JEFFERSON PARISH Purchasing Department a quarterly usage report by item of all items listed on this proposal.

15. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be disqualified if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES _____

INDICATE STARTING TIME (IN DAYS) FOR CONSTRUCTION WORK _____

INDICATE COMPLETION TIME (IN DAYS) FOR CONSTRUCTION WORK _____

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) _____

*** ALL BIDDERS MUST COMPLETE SECTION BELOW ***	
FIRM NAME:	
SIGNATURE: (Must be signed here)	TITLE:
PRINT OR TYPE NAME:	
ADDRESS:	
CITY, STATE:	ZIP:
TELEPHONE: ( )	FAX: ( )
EMAIL ADDRESS:	

TOTAL PRICE OF ALL BID ITEMS: $ _____

THIS BID MUST BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE COMPANY/FIRM FOR BID TO BE VALID. BID PACKAGE, INCLUDING INSTRUCTIONS AND SPECIFICATIONS, MUST BE RETURNED IN ITS ENTIRETY FOR BID TO BE VALID. SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the **bid number and bid opening date** indicated on the outside of the envelope submitted to the Purchasing Department.

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
			Emergency sewer reconstr-existing sewers including service laterals at scattered locations in Jeff.Par.damaged by natural disaster or other state of emergency.		
1	50	EA	0001 - Manhole, catch basin & wetwell inspection		
2	5000	LF	0002 - Smoke testing		
3	10	HR	0003 - Dye water flooding		
4	10000	LF	0004 - Clean 8" or 10" sewer less than 1/3 pipe debris		
5	1000	LF	0005 - Clean 8" or 10" sewer more than 1/3 pipe debris		
6	2000	LF	0006 - Clean 12" sewer less than 1/3 pipe debris		
7	500	LF	0007 - Clean 12" sewer more than 1/3 pipe debris		
8	1000	LF	0008 - Clean 15" and 18" sewer less than 1/3 pipe debris		
9	500	LF	0009 - Clean 15" and 18" sewer more than 1/3 pipe debris		
10	500	LF	0010 - Clean 21" and 24" sewer less 1/3 pipe debris		
11	250	LF	0011 - Clean 21" and 24" sewer more than 1/3 pipe debris		

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
12	25	CUYD	0012 - Clean wet well		
13	100	LF	0013 - Root removal 6" pipe		
14	200	LF	0014 - Root removal 8" pipe		
15	200	LF	0015 - Root removal 10" pipe		
16	200	LF	0016 - Root removal 12" pipe		
17	100	LF	0017 - Root removal 15" thru 24" pipe		
18	100	EA	0018 - Clean and video 6" sewer service laterals		
19	10000	LF	0019 - Video inspection/radial view camera in 8" thru 12" pipe		
20	1000	LF	0020 - Video inspection/radial camera in 15" thru 24" pipe		
21	500	LF	0021 - TV/inspection/dye-flooding or exfiltration testing 6" - 12" pipe		
22	500	LF	0022 - TV inspection/dye-flooding or exfiltration testing 15" - 21" pipe		
23	10	EA	0023 - Remote illumication of 15" - 21" pipe		
24	10	EA	0024 - Additional setup for TV inspection 6" thru 12" pipe		
25	10	EA	0025 - Additional set up for TV 15" thru 24" pipe		

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
26	1000	LF	0026 - Insertion of 4.5 mm CIPP in 6" pipe		
27	2000	LF	0027 - Insertion of 4.5 mm CIPP in 8" VCP		
28	5000	LF	0028 - Insertion of 6.0 mm CIPP in 8" Pipe		
29	1000	LF	0029 - Insertion of 6.0 mm CIPP in 10" pipe		
30	750	LF	0030 - Insertion of 6.0 mm CIPP in 12" pipe		
31	750	LF	0031 - Insertion of 6.0 mm CIPP in 15" pipe		
32	300	LF	0032 - Insertion of 6.0 mm CIPP in 18" pipe		
33	300	LF	0033 - Insertion of 7.5 mm CIPP in 21" pipe		
34	100	LF	0034 - Insertion of 9.0 mm CIPP in 24" pipe		
35	100	LF	0035 - Additional 1.5 mm thickness for 6" and 8" CIPP		
36	100	LF	0036 - Additional 1.5 mm thickness for 10" and 12" CIPP		
37	50	LF	0037 - Additional 1.5 mm thickness for 15" and 18" CIPP		
38	50	LF	0038 - Additional 1.5 mm thickness for 21" and 24" CIPP		

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
39	25	EA	0039 - Lateral reconstruction from clean-out by CIPP		
40	100	LF	0040 - Extension of lateral reconstruction from cleanout by CIPP		
41	15	EA	0041 - Set up for long segment lateral reconstruction from M/L CIPP		
42	30	EA	0042 - Long segment lateral reconstruction from M/L by CIPP		
43	100	LF	0043 - Extension of long segment lateral reconstruction from M/L by CIPP		
44	20	EA	0044 - Setup for short segment lateral CIPP lateral connection reconstruction		
45	100	EA	0045 - Short segment lateral connection reconstruction from M/L by CIPP		
46	10	EA	0046 - Service reconstruction/replace by excavation 0' - 6' deep		
47	10	EA	0047 - Service reconstruction/ replacement by excavation 6'-10' deep		
48	10	EA	0048 - Service reconstruction/ replacement by excavation 10' or greater		
49	20	EA	0049 - Repair/adjust cleanout		
50	20	EA	0050 - Installation of sewer cleanout Type 1		
51	20	EA	0051 - Installation of sewer cleanout Type II		

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
52	20	EA	0052 - Replace section of service line		
53	4	EA	0053 - Restore 6" x 10" main by sewer repair (0-8' deep)		
54	2	EA	0054 - Restore 6" - 10" main by sewer repair (8' - 12' deep)		
55	2	EA	0055 - Restore 6" - 10" main by sewer repair (beyond 12' deep)		
56	10	LF	0056 - Restore 6" - 10" main beyond sewer repair (0' - 8' deep)		
57	10	LF	0057 - Restore 6" - 10" main beyond sewer repair (8' - 12' deep)		
58	10	LF	0058 - Restore 6" - 10" main beyond sewer repair (beyond 12' deep)		
59	16	EA	0059 - Restore 12" - 24" main by sewer repair (0' - 8' deep)		
60	16	EA	0060 - Restore 12" - 24" main by sewer repair (8' - 12' deep)		
61	16	EA	0061 - Restore 12" - 24" main by sewer repair (beyond 12' deep)		
62	16	LF	0062 - Restore 12" - 24" main beyond sewer repair (0' - 8' deep)		
63	16	LF	0063 - Restore 12" - 24" main beyond sewer repair (8' - 12' deep)		
64	16	LF	0064 - Restore 12" - 24" main beyond sewer repair (beyond 12' deep)		

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
65	10	EA	0065 - Insertion of tee for service lateral in 8" - 12" mainline		
66	10	EA	0066 - Insertion of tee for service lateral above 12' mainline		
67	50	LF	0067 - Furnish and install 4" restrained joint force main		
68	50	LF	0068 - Furnish and install 6" restrained joint force main		
69	50	LF	0069 - Furnish and install 8" restrained joint force main		
70	50	LF	0070 - Furnish and install 10" restrained joint force main		
71	50	LF	0071 - Furnish and install 12" restrained joint force main		
72	50	LF	0072 - Furnish and install 14" restrained joint force main		
73	50	LF	0073 - Furnish and install 16" restrained joint force main		
74	50	LF	0074 - Furnish and install 18" restrained joint force main		
75	50	LF	0075 - Furnish and install 20" restrained joint force main		
76	50	LF	0076 - Furnish and install 24" restrained joint force main		
77	100	TN	0077 - Ductile iron restrained joint fittings		

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
78	1000	MFBF	0078 - Additional sheeting, bracing, (as directed)		
79	500	CUYD	0079 - Additional granular material		
80	500	CUYD	0080 - Additional limestone		
81	80	HR	0081 - Exploratory excavation		
82	2000	SQFT	0082 - Repoint existing sewer manholes or wetwells		
83	10000	SQ	0083 - Sewer manhole/wetwell rehab by cementitous lining method		
84	20	EA	0084 - Manhole cover adjustments		
85	20	EA	0085 - Rehabilitate manhole bench/trough		
86	5	EA	0086 - Remove and replace manhole cone		
87	100	VFT	0087 - Remove and replace manhole wall		
88	20	EA	0088 - Repair manhole line connection		
89	250	EA	0089 - Remote cut and brush services		
90	10	EA	0090 - Man-entry cutting of CIPP at service connection		
91	25	EA	0091 - Internally trim protuding service connections		

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
92	20	EA	0092 - Set up 3" bypass pump		
93	20	EA	0093 - Set up 4" bypass pump		
94	10	EA	0094 - Set up 6" bypass pump		
95	5	EA	0095 - Set up 8" bypass pump		
96	2	EA	0096 - Set up 10" bypass pump		
97	1	EA	0097 - Set up 12" bypass pump		
98	75	HR	0098 - Operation of 3" bypass pump		
99	75	HR	0099 - Operation of 4" bypass pump		
100	50	HR	0100 - Operation of 6" bypass pump		
101	20	HR	0101 - Operation of 8" bypass pump		
102	10	HR	0102 - Operation of 10" bypass pump		
103	10	HR	0103 - Operation of 12" bypass pump		
104	200	LF	0104 - Extension of 6" bypass discharge force main piping		
105	200	LF	0105 - Extension of 8" bypass discharge force main piping		
106	200	LF	0106 - Extension of 10" bypass discharge force main piping		

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
107	200	LF	0107 - Extension of 12" discharge force main piping		
108	300	SQYD	0108 - Remove and replace PCC roadway (9" thick)		
109	100	SQYD	0109 - Place and remove temporary asphaltic concrete roadway		
110	250	SQYD	0110 - Remove and replace concrete driveways (6" thick)		
111	500	SQYD	0111 - Remove and replace concrete driveways (4" thick)		
112	5	EA	0112 - Site specific traffic control device plan		
113	5	EA	0113 - Traffic control device set-up		
114	5	EA	0114 - Traffic control device operation		
115	100	HR	0115 - Traffic flagman		
116	1000	LF	0116 - Insertion 5.5 MMRCPP in 10" force main		
117	1000	LF	0117 - Insertion 5.5 MM RCPP in 12" force main		
118	1000	LF	0118 - Insertion 5.5 MM RCPP in 14" force main		
119	1000	LF	0119 - Insertion of 8.5 mm RCPP in 18" force maine		

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
120	500	LF	0120 - Additional 1.5 mm thickness for 10" x 12" RCPP		
121	500	LF	0121 - Additional 1.5 mm thickness for 14" - 18" RCPP		
122	10	DY	0122 - Rubber tire loader/backhoe		
123	10	DY	0123 - 5/8 cu yd track backhoe		
124	10	DY	0124 - 1 cu yd track backhoe		
125	10	DY	0125 - 2 cu yd rubber tire loader		
126	10	DY	0126 - 2 cu yd track backhoe		
127	10	DY	0127 - D-4 dozer		
128	10	DY	0128 - Chain saw		
129	10	DY	0129 - Multi-purpose saw		
130	10	DY	0130 - Small tolls		
131	10	DY	0131 - Pick-up truck		
132	10	DY	0132 - Utility truck		
133	10	DY	0133 - Single axle truck		
134	10	DY	0134 - Tandum axle dump truck		

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00079408

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
135	10	DY	0135 - Welding truck complete with 200A welder and torch set		
136	10	DY	0136 - Small gasoline wacker plate approx. 24" x 24"		
137	10	DY	0137 - Construction water meter and 100 ft of 1-1/2" hose		
138	80	HR	0138 - Low boy		
139	80	HR	0139 - Foreman		
140	80	HR	0140 - Operator		
141	80	HR	0141 - Pipe Layer		
142	80	HR	0142 - Laborer		
143	80	HR	0143 - Welder		
144	80	HR	0144 - Welder Helper		
145	80	HR	0145 - Carpenter		
146	80	HR	0146 - Truck Driver		
147	20	HR	0147 - Post Digital video collection implementation VHS tape conversion		
148	2	EA	0148 - Jefferson Parish - Pennisular Technology Pipe Tech Scan		
149	2	EA	0149 - Jefferson Parish - Penninsular Technology Pipe Tech Check		

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00079408

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
150	1	EA	0150 - Jefferson Parish - Penninsular Technology Pipe Tech View		
151	1	EA	0151 - Contractor GBA Master Series Sewer Master Software		
152	1	EA	0152 - Contractor - GBA Master Series Sewer Master Field License		
153	20	HR	0153 - Data Entry Clerk		
154	10	HR	0154 - Custom Software Modification and report writing (post certification)		

JEFFERSON PARISH DEPARTMENT OF SEWERAGE
JEFFERSON PARISH, LOUISIANA

RESPONSE TO A NATURAL DISASTER OR OTHER STATE OF EMERGENCY

CONSTRUCTION SPECIFICATIONS

AND

CONTRACT DOCUMENTS

FOR

EMERGENCY SEWER RECONSTRUCTION, CLEANING AND LINING OF EXISTING SANITARY SEWERS, INCLUDING SERVICE LATERALS AT SCATTERED LOCATIONS IN JEFFERSON PARISH DAMAGED AS A RESULT OF A NATURAL DISASTER OR OTHER STATE OF EMERGENCY

J.P. PROJECT NO.:

PROPOSAL NO. 50-00079408

APRIL 2006

EMERGENCY SEWER RECONSTRUCTION OF EXISTING SANITARY SEWERS, INCLUDING SERVICE LATERALS, AT SCATTERED LOCATIONS IN JEFFERSON PARISH DAMAGED AS A RESULT OF A NATURAL DISASTER OR OTHER STATE OF EMERGENCY

1.0 GENERAL CONDITIONS:

1.1 SCOPE OF CONTRACT WORK:

The purpose of this contract is to provide means to perform emergency replacement, repair, cleaning and lining of existing sewer lines and work incidental thereto to assist the Sewerage Department work crews during Natural Disasters or Other State of Emergencies. No work is guaranteed under this contract and actual quantities used may fall below or exceed the estimated quantities listed on the bid form. All work covered under this contract must conform to Jefferson Parish Engineering Department standard detail sheets available in the Jefferson Parish Engineering Department.

The Contractor is made aware that, because of the nature of this contract, it will be necessary to make repairs on Emergency 24 hours, seven (7) day a week, at night, week-ends and holidays. There will be no extra compensation for these repairs during these events. The Contractor must have two (2) contact employees, one primary and one back-up, on a 24 hour basis available to coordinate work initiation.

1.2 FAMILIARIZATION WITH THE WORK:

Before submitting bid, each prospective bidder shall familiarize his/her self with the work, local labor conditions and all laws, regulations, Jefferson Parish Engineering Department standard detail sheets and other factors affecting performance of the work. Contractor shall carefully correlate his observations with the requirements of the contract documents and otherwise satisfy their selves of the expense and difficulties for performance of the work. The submission of a bid will constitute a representation of compliance by the bidder. There will be no subsequent financial adjustment for lack of such familiarization.

1.3 PRE-BID CONFERENCE:

A pre-bid conference will not be held for this proposal.

1.4 CONTRACT TIME:

The contract time is for one (1) year.

1.5 SUB-CONTRACTORS:

All bidders wishing to use the services of sub-contractors should submit, with their bid, a complete list of all sub-contractors. Thereafter, written permission must be obtained from the Parish for the addition of any sub-contractors.

1.6 WORK SCHEDULING:

Contractor must be prepared to begin construction within two (2) days after a Natural Disaster or Other State of Emergency. Because of the nature of this contract, it may be necessary for the contractor to respond to emergencies immediately upon notification within twenty-four (24) hours of call out. In the event of a hurricane/tropical storm, it is the responsibility of contractor to contact appropriate Parish personnel at the Emergency Operations Center (EOC), 1887 Ames Boulevard, Marrero, Louisiana, either by phone at (504) 349-5360 or in person within 24 hours of landfall to determine if services will be required. In the event of a sudden natural disaster or other State of Emergency, appropriate Parish personnel will contact the contractor if services are required.

Failure of the Contractor to meet the above time constraints will result in the following:

a. Have the work performed by others and back charged to the Contractor: Or

b. Failure of the contractor to meet the response deadlines may lead to contract termination.

The failure of Jefferson Parish to assert a breach for the failure of the Contractor to perform at anytime shall not be construed to be a waiver of Jefferson Parish's rights hereunder.

Each work order will designate a job number and all correspondence, billing, etc. pertaining to the work shall reference this job number designation.

If the Contractor does not diligently proceed with the work then the issuance of additional work orders will be withheld.

1.7 JEFFERSON PARISH GENERAL SPECIFICATIONS:

The general specifications for these contract documents are set forth in Jefferson Parish Council Resolution No. and 95467, adopted January 23, 2002. The resolution is not reproduced herein, however, bidders shall be presumed to have full knowledge of these general conditions. Copies are, at all times, available with the Clerk of Jefferson Parish Council, General Government Building, 200 Derbigny Street, Suite 6600, (504) 364-2626.

1.8 LIQUIDATED DAMAGES:

Because of the nature of this contract, on emergency basis, liquidated damages will not be assessed. If the Contractor should fail to complete issued work orders in a timely manner and to the satisfaction of the Parish the issuance of additional work orders will be withheld, and may result in contract termination.

1.9 RETAINAGE:

Pursuant to LSA R.S. 38:2248, Owner shall retain the following percentages of each progress payment until payment is due under the terms and conditions governing substantial completion or final payment.

Contract Amount	Retainage
$0 - $1,000,000	10%
$1,000,000 or greater	5%

1.10 PROCEDURE FOR NEW PRODUCT CONSIDERATION:

The primary objective of this contract is to clean, video inspect, and to rehabilitate sewers on which repairs will be very expensive and/or disruptive; i.e. the critical sewers. Preventive maintenance on these sewers will greatly reduce the risk of such failures occurring. The secondary objective of this contract is to institute a systematic long-term plan to reduce excessive infiltration/inflow into the sewer system and preserve the structural integrity of the sewer system. It is also the objective of the Parish to maintain 100% of the existing sanitary sewer pipes' flow capacity, when possible, after completion of rehabilitation and to minimize the public exposure to disruption, inconvenience and health hazards. For these reasons, certain methods of rehabilitation have been pre-selected as being in the best interest of the Parish, and it is critical that both the Product and the Installer have the ability to meet or exceed all requirements of the Parish.

1.11.01 NEW PRODUCT CONSIDERATION:

A. Minimum Entry Policy

As a public agency the Parish has a responsibility to the taxpayers to avoid the expenditure of public funds for researching or developing commercial products, and to avoid competition with private laboratories for developmental testing of commercial products. The following section covers the minimum standards, which all new pipe or manhole rehabilitation processes, not previously accepted by the Parish, must meet.

A bidder may propose a proven alternate Product and installing company instead of the procedures described in the Technical Specification for consideration as "equal". Such a proposal will be accepted by the Parish, if it has been approved as an equal to the methods described in this Specification and satisfactory evidence has been submitted to the Parish that the Product and Installer complies with the New Product Qualifications requirements. This approval must come from the Parish.

1.11.02 REQUIREMENTS FOR THE PIPE LINING PRODUCT:

A. Any proposed Product must be capable of rehabilitating sanitary sewer mainlines from 6" to 60" diameter, and 4" & 6" sanitary sewer laterals. The Product must be of the cured-in-place type.

B. Any proposed Product must also meet the following requirements:

1. The liner must restore structural integrity of lightly or heavily deteriorated sewer pipe of all common types, Concrete, Vitrified Clay, Iron, PVC, etc.

2. All rehabilitation of mainlines and laterals must be done completely trenchless-no excavation

3. The installed liner must be tight-fitting throughout its length.

4. The liner must be capable of being installed around bends and offsets in the pipe and be capable of diameter transitions within a manhole segment.

5. The liner must be capable of being installed in a wide variety of wall thickness' to meet the variety of field conditions encountered in the Parish.

6. The lined pipe must maintain at least 100% of the flow capacity of the host pipe when new. An in-ground independent third party test shall be provided to support this.

7. The liner must meet or exceed all physical property standards, flow, corrosion, design life, installation, other quality standards, as exhibited by the specified Product, or as otherwise described herein, or listed below.

A. Sewer rehabilitation Products submitted for consideration must provide Third Party Test Results supporting the long-term performance and structural strength of the Product and such data shall be satisfactory to the Parish. Test samples shall be prepared so as to simulate installation methods and the trauma of Product installation. Laboratory samples will not be acceptable.

B. Short-term test can be extrapolated using actual short-term test data and applicable ASTM

Standards for plastic pipe.

C. For a Product to be considered for approval, a minimum of 500,000 linear feet, or 2,000 mainline sections, of successful wastewater collection system installations, must have been completed in the U.S. Included within the footage experience must be a least 25,000 linear feet of 24" or larger diameter installations and at least 5,000 linear feet of successful 42" or larger diameter installations.

1.11 **REQUIREMENTS FOR THE INSTALLER:**

A. To be considered as an acceptable equal, any proposed installing company (Installer) must meet the following minimum requirements:

1. Prospective Installer must be willing to install a test section in a minimum of 300 linear feet of 8-inch sanitary sewer main line for review by the Parish. This test will be at no charge to the Parish and will be used to evaluate installation techniques; installation associated material trauma, public disruption compatibility with current Parish standards, and all project requirements as detailed throughout this specification. A restrained sample of the installed material will be tested as per modified ASTM D-790 and the results submitted to the Parish for review prior to any approval. Contractor shall prepare and submit both pre-rehabilitation and post-rehabilitation video inspections of the test main line section prior to the installation of the proposed service connection rehabilitation Products.

   This test line section must include a minimum of six service connections. The prospective Installer shall re-establish all service connections to the satisfaction of the Parish.

   The prospective Installer must also rehabilitate by CIPP two laterals by each of the three (3) lateral reconstruction methods identified in the Technical Specifications in the mainline test section above.

   If the test section is successfully installed to the satisfaction of Jefferson Parish, and the Installer is awarded the bid, the Installer will be paid for this test at the unit prices bid in the Contract.

2. The Installing Company must satisfy all insurance, financial, and bonding, requirements of the Parish, and must have verifiable active experience in the commercial installation of the exact product proposed. The Installing Company must have installed at least 200,000 linear feet of the exact product proposed in wastewater collection systems, with a minimum of 20,000 linear feet of 24" or larger diameter, and a least 5,000 linear feet of 42" diameter or larger diameters. Acceptable documentation and verifiable references of these minimum installation requirements must be submitted to the Parish a minimum of 10 days prior to the bid date for review and verification by the Owner.

3. The Installer shall have internally restored a variety of service laterals including both 4-inch and 6-inch connections of all major pipe types including, but not limited to vitrified clay, PVC, and concrete. To be considered for approval the Installer shall have internally restored a minimum of 1,000 service connections.

4. The proposed CIPP lateral rehabilitation Product must also have been installed in a minimum of 500 service laterals by the proposed Installer, with at least 250 of these installed from the mainline, and 250 installed from the cleanouts.

5. Verifiable references must be submitted, with bid, for review and verification by the owner. To be considered for approval, prospective installer shall submit all ASTM Standards for installation and/or materials on the proposed Product.

6. Proposed Installer shall submit statement as to country origin of all materials used to produce the final installed Product.

7. Proposed Installer shall provide detailed installation procedures and specific procedures for rehabilitation of mainlines, rehabilitation of service laterals, internal re-establishment of laterals, and installation of new service connections on lined pipe.

8. Proposed Installer shall submit a narrative description of typical modes of failure for the proposed Product. This narrative should include typical and suggested means of repair along with brief description of both the causes of the potential failure and effectiveness of proposed repairs.

9. Proposed Installer shall submit a narrative description of limitations of the proposed Product. Narrative should include a minimum of suitable diameter ranges, degree of host pipe integrity required, job site installation limitations, depth limitations, required obstacle removal, point repairs, etc.

10. Proposed Installer should also submit at least five (5) Inflow/Infiltration reduction case studies documenting quantifiable results of rehabilitation with the proposed Products.

1.12 DATA SUBMITTAL:

All requests and data submittals for consideration of new Products and Installers as "equal" shall be submitted to:

Jefferson Parish
Department of Sewerage Maintenance Facility
1440 River Park Road
Bridge City, LA

1.13 EMERGENCY PERSONNEL REQUIREMENTS:

The work demands of this contract will require the Contractor to be able to respond to emergencies within one hour of notification. The Contractor is responsible for insuring that all personnel are self-sufficient, that is, provides for all equipment, materials and services necessary to sustain its employees at all times, including, but not limited to the provision of adequate housing, food, transportation and fuel.

1.14 SCHEDULING WORK:

Work under this contract will be released by Work Orders, if possible, which will include available maps and instructions for the exact work to de done provided the computer systems are up and running. The maps will reflect the approximate location and existing conditions of utilities if available.

The Contractor performing work under this contract shall be required to coordinate his operations with the designated Project Manager. If possible, the Contractor shall notify residents by (fliers, door hangers, etc.) a minimum of 24 hour prior to commencing work on any issued work order by the Owner. Additional notification periods for various items of work can be found in the specifications.

Once work has begun at a specific location, the Contractor must diligently pursue the work to be done until the work is completed. The Parish reserves the right to order the Contractor to dispatch additional men and equipment to the job site if, in the opinion of the Project Manager,

work is not proceeding in an orderly manner. The Parish may order the Contractor to employ additional crews in order to complete the work.

The Project Manager has the right to require the Contractor to remove incompetent employees from the jobsite.

Some manholes may have been paved over or otherwise covered up, may not be existing, may not be correctly shown in the Parish plans, or may be shown as a clean-out or vice versa. The Contractor shall make a reasonable, good faith effort to locate the manholes, uncovering and raising of manholes may be performed by the Parish or the Parish's designated Contractor. The Contractor shall complete an "Unable to Complete Assignment" form and turn into the inspector.

1.15 WORK BY OTHERS:

The Contractor performing work under this contract shall be required to coordinate his operations with all Parish Public Works Departments as may be required. The Parish is not restricted from utilizing its own personnel and equipment or the personnel or equipment of other governmental entities or of any other entities or contractors when the services performed by those entities can be performed with greater speed or less cost to the Parish.

The parties are entering into a non-exclusive contract and the Parish retains the right to obtain similar services from additional providers, if necessary. The parties intend the Parish to procure other services from contractors when to do so would result in services being obtained in a more prompt and economic manner due to the emergency nature of the work.

1.16 COORDINATION OF WORK:

In order to meet the work demands of this contract and to supply the data collected by the Contractor under this contract to the Parish in the required format, the Contractor submitting the lowest responsive, responsible bid will be required to show satisfactory proof, prior to contract award, that the Contractor owns valid licenses to utilize the current versions of the GBA Master Series sewer system management program. This program is to be used by the Contractor to input and process the data collected under this contract, per Section 24 and 25).

Prior to award of the contract the Contractor will be required to submit proof, satisfactory to the Parish, that at least one of the Contractor's employees is proficient in the use of GBA Master Series sewer system management program and that person has substantially and significantly utilized this program for a least one year, and that employee will be available to work with Parish personnel on a daily basis on this contract.

1.19 BID BONDS:

Will be required in an amount not more than five percent (5%) of the contract price when the contract price is estimated to be one hundred thousand dollars ($100,000.00) or more. LSA-R.S. 38:2212A.

1.20 PERFORMANCE BONDS:

Contractor will furnish a performance bond and labor, material & payment bond, both in an amount of 50% of the contract price, for any and all Notices to Proceed, within 24 hours of the Contractor's receipt of the Notice to Proceed. If due to emergency conditions, the Contractor cannot obtain and furnish the bonds within 24 hours, the Contractor shall provide written justification for the delay and obtain the bonds as soon as possible. In no case will any payment be issued for work performed by the Contractor until both bonds have been furnished. The cost of the bond premiums will be the responsibility of the Contractor.

TECHNICAL SPECIFICATIONS
SECTION 1

SCOPE OF WORK

1.01 GENERAL

The work to be performed on this contract shall consist of replacement or restoration of existing sewer mains (gravity or force) by Point Repair, upgrade lift stations, the restorations of, roadways, driveways, sidewalks, and ground cover (sod) associated with the work, cleaning, television inspection, root removal and dye-water flooding, smoke testing of gravity sanitary sewer; cleaning and physical inspection of manholes, catch basins, and wet wells, reconstruction of sanitary sewer damaged by an event or natural disaster designated as a State of Emergency by installing a cured-in-place (CIPP) using one of two approved processes, Insituform or National Liner, or approved alternate. Also included is the rehabilitation of sewer manholes and wet-wells.

1.02 SPECIAL COMPUTER SOFTWARE REQUIREMENTS

The Owner is utilizing certain licensed computer software programs to assist in management of the sanitary sewer system. The Contractor shall utilize George Butler and Associates (GBA) Wastewater Collection Management System and Peninsular Technology, Inc. to electronically store all data obtained from evaluation and rehabilitation tasks. The Engineer will provide the Contractor with any special instructions regarding the use of the GBA system, per Section 25.

Upon request by the Engineer, not more than once a week, the Contractor shall deliver to the Engineer a computer CD containing all field inspection data collected during that week including smoke test data, television inspection, manhole inspection, clearing, lining work, etc. All data supplied on CD must be grouped by individual work order number and by sewer lift station number and manhole number. The cost for performing this shall incidental to the related bid items.

TECHNICAL SPECIFICATIONS
SECTION 2

MEASUREMENT AND PAYMENT

2.01 GENERAL

Payment for the various items of the Bid Schedule, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the work all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of compliance with the regulations of public agencies having jurisdiction. The Contractor is hereby on notice that no separate payment will be made for any item that is not specifically set forth in the Bid Schedule and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of work.

2.02 ESTIMATED QUANTITIES

This is a unit price contract and the quantities shown on the "Bid Form" are for comparison of bids only. Items of work performed under this contract will be on an as needed basis and actual quantities installed may vary significantly from the quantities stated in the Bid Form (Quantities shown may be increased, decreased or not used at all.)

2.03 PHYSICAL INSPECTION OF MANHOLES, CATCH BASIN & WET WELLS

A. Measurement: Measurement for payment for physical inspection of manholes, catch basins and wet wells will be per each structure satisfactorily inspected.

B. Payment: Payment for this item will be made at the contract unit price bid per each and shall constitute full compensation for all labor, materials and equipment required to complete this item as specified in Section 3.

2.04 SMOKE TESTING

A. Measurement: Measurement for payment for smoke testing shall be made per linear foot with measurement being made between centerlines of consecutive manholes for the line segment tested.

B. Payment: Payment for smoke testing will be made at the unit price bid per linear foot of pipe tested in accordance with these specifications and shall constitute full compensation for supplying all necessary labor, materials, equipment and incidentals.

2.05 DYE-WATER FLOODING

A. Measurement: Measurement for payment for dye-water flooding will be made per hour required to complete the test as specified for each individual work order. A two-hour minimum will be allowed for each work order.

B. Payment: Payment for dye-water flooding will be made at the unit price bid per hour and shall constitute complete compensation for all labor, materials and equipment required to complete this testing as specified herein.

2.06 CLEANING SANITARY SEWER LINES

A. Measurement: Measurement for payment for cleaning sanitary sewer pipe and associated manholes shall be per linear foot with measurement being made between centerlines of consecutive manholes for the line segments and manholes cleaned.

B. Payment: Payment for cleaning sanitary sewer lines and associated manholes shall be made at the unit price bid per linear foot for various pipe sizes and debris level, without regard to pipe type. Payment shall constitute full compensation for all labor, materials, and equipment necessary to complete this item of work as specified herein and shall include all costs associated with debris removal and disposal.

2.07 CLEAN WET WELLS

A. Measurement: Measurement for payment for cleaning wet wells will be per cubic yard of material removed. The Project Manager, or his designated representative, will determine the diameter of the wet well and the depth of debris prior to cleaning to calculate the appropriate volume of debris removed.

B. Payment: Payment for cleaning wet wells shall be made at the unit price bid per cubic yard and shall constitute complete compensation for all labor, materials and equipment required to complete the item of work. Payment shall constitute full compensation for all labor, materials, and equipment necessary to complete this item of work as specified herein, including the disposal of the debris removed.

2.08 ROOT REMOVAL

A. Measurement: Measurement for payment for root removal from sanitary or storm sewers will be made per linear foot. The Project Manager or his designated representative will determine the length of the sections in which the roots shall be required to be removed.

B. Payment: Payment for root removal will be made at the unit prices bid per linear foot for the various sizes of pipe and shall constitute full compensation for all labor, materials, and equipment necessary to complete this item as specified herein.

2.09 CLEAN AND VIDEO 6" SANITARY SEWER SERVICE LATERALS

A. Measurement: Measurement for payment for the cleaning and video inspection or sanitary sewer service laterals will be on a per each basis from the cleanout to the mainline.

B. Payment: Payment for the cleaning and video inspection of sanitary sewer service laterals shall be made at the unit price bid per each without regard to pipe type and shall include all costs associated with debris removal and disposal.

2.10 RADIAL VIEW COLOR CAMERA EVALUATION VIDEO

A. Measurement: Measurement for payment for radial view color camera evaluation video will be made per linear foot with measurement being made between centerlines of consecutive structures for the line segments televised. The use of a radial view color camera will be specifically directed by the Project Manager.

B. Payment: Payment for radial view color camera evaluation video will be made at the unit price bid per linear foot and shall constitute full compensation for all labor, materials and equipment necessary to complete the item as specified.

2.11 TELEVISION INSPECTION WITH DYE-FLOODING OR EXFILTRATION

A. Measurement: Measurement for payment for television inspection with either dye-flooding or exfiltration testing shall be per linear foot with measurement being made between centerlines of consecutive manholes for the line segments televised.

B. Payment: Payment for television inspections with either dye-flooding or exfiltration testing shall be made at the unit price bid per linear foot for the various sizes of sanitary sewer lines televised. It shall include complete compensation for all labor, materials and equipment necessary to complete this item of work as specified herein.

2.12 REMOTE ILLUMINATION OF 15" THRU 60" PIPE

A. Measurement: Measurement for payment for remote illumination pipe inspection will be made per each pipe section inspected. This item will typically be performed on pipe sections of less than fifty (50) feet in length.

B. Payment: Payment for remote illumination pipe inspection will be made at the unit price bid for each pipe section inspected.

2.13 ADDITIONAL SET UP FOR T.V. INSPECTION

A. Measurement: Measurement for this item will be made per each additional setup which is required due to an obstruction in the line being televised. Initial setup for inspection as required for normal operation will not be measured separately nor included in this item.

B. Payment: Payment will be made at the unit price bid per each additional setup required. Separate payment will be made for the actual linear footage of line televised due to a "reverse Setup".

2.14 INSTALLATION OF CIPP FOR MAIN LINES

A. Measurement: Measurement for payment for installation of CIPP will be made per linear foot as measured between centerlines of consecutive structures for the line segment replaced.

B. Payment: Payment for CIPP insertion will be made at the unit price bid per linear foot for the sizes and thickness of CIPP installed in accordance with these specifications. Payment for installation of CIPP shall be for pre-inversion cleaning, pre and post inversion television inspection, wet out of liner, curing of liner, cutting ends, sealing CIPP in manholes, testing and cleanup and in accordance with the bid unit prices for the various pipe sizes. Addition compensation will be made for initial cleaning and pipe inspection in accordance with the bid unit prices for these items.

Item No. 27 will be used for 8" vitrified clay pipe only. Item No. 28 will be used for all other types of 8" pipe.

There will be no direct payment for sewer bypass up to, and including the first 4" pump. If more than one 4" pump or a larger pumps (s) is (are) required to adequately handle the flow, the Contractor will be paid at the bid unit prices for each size pump setup and at the appropriate hourly operating rate as approved by the Project Manager.

There shall be no direct payment for pre-television inspection of sewer mainline prior to lining. Cost shall be incidental to work.

2.16 ADDITIONAL THICKNESS FOR CIPP

A. Measurement: Measurement for payment for installation of additional thickness of CIPP will be made per linear foot as measured between centerlines of consecutive structures for the line segment lined with additional thickness.

B. Payment: Payment for additional thickness of CIPP will be made at the unit prices bid per linear foot for the sizes and additional thicknesses of CIPP installed in accordance with these specifications. Payment for pre-inversion cleaning, pre and post inversion television inspection, wet out of liner, insertion of liner, curing manholes or wet-well, testing, cleanup and bypass pumping shall be paid for under separate bid items. Payment for this item will only be made if the additional thickness is approved by the Owner, prior to insertion.

2.17 CIPP RE-CONSTRUCTION OF SERVICE LATERALS

A. Measurement: Measurement for payment for CIPP Reconstruction of service laterals will be on a per each basis for each performed up to 35 feet in length and on a linear foot basis for lengths which exceed the initial 35 feet, with the exception of a "Short segment" reconstruction from mainline which shall be defined as the installation of a "top hat" seal and lateral lining up to 5 feet in length. The "short segment" reconstruction shall include a standard cut of the lateral at the mainline.

B. Payment: Payment for CIPP Reconstruction will be made at the unit price bid, either on a per each basis for the range specified or a linear foot basis for lengths in excess for the range specified, for CIPP installed in accordance with these specifications. Payment for CIPP Reconstruction shall be for pre-inversion cleaning, pre-inversion inspection, wet out of CIPP, insertion of CIPP, curing of CIPP, cutting ends, sealing CIPP in cleanouts and mainline, testing, and cleanup and in accordance with the bid unit prices for the various pipe lengths. Additional payment for "Setup for Lateral Reconstruction from Mainline by CIPP" will be made for each "Setup" of equipment. The actual number of laterals reconstructed from this "Setup" may vary from 1 to 20.

2.18 SEWER FORCE MAIN REHABILITATION BY REINFORCED CURED-IN-PLACE PIPE

A. Measurement: Measurement for payment for installation of RCPP will be made per linear foot as measured between centerlines of consecutive structures or access points for the line segment repaired. End seals shall be on a per each basis.

B. Payment: Payment for RCPP insertion will be at the unit prices per linear foot for the sizes and thickness of the RCPP installed in accordance with these specifications. Payment shall include the pre-inversion cleaning, pre and post inversion video inspection: wet-out, insertion, curing and end cut of the RCPP; testing, cleanup and all required end seals. Initial cleaning shall be compensated in accordance with the bid unit

prices for the closest diameter sewer cleaning pay items.

2.19 SERVICE RECONSTRUCTION/REPLACEMENT BY EXCAVATION

A. Measurement: The unit price bid for Service Reconstruction/Replacement by excavation shall be measured per each. Reconnection by excavation method shall include the stack and up to eight (8) feet of service line as necessary. Measurement shall also be based on the various depths in increments of zero (0) up to six feet (6'), over 6 feet (6') to ten feet (10') and over ten feet (10') deep for all types and sizes of sewers, as shown.

Depth of Bury is to measure from Natural Ground Level to the Flow Line of the Sanitary Sewer Main at the Point of Reconnection. The minimum trench width shall be 3' – 0".

One or more connections discharging into a common point shall be considered as one house/building service connection. The Contractor shall not be allowed to increase the number of service reconnections. This item also includes, as incidental to the work field locating all live service connections from the ground in portions of the sanitary sewer that cannot be negotiated with the TV camera or where the camera was submerged.

B. Payment: Payment for service reconnection excavation shall be made at the contract unit price bid per each based on various depth increments. Payment shall be full compensation for locating service connections, material, sheeting and bracing, dewatering, labor, equipment, and incidentals necessary to provide a complete and accepted service reconnection.

2.20 SERVICE LINE REPAIR

A. Measurement: Measurement for the work items listed below will be per each work item completed and accepted or on a linear foot basis for lengths which exceed those indicated. The measured quantity shall include, but not be limited to, sheeting and shoring, repair of service line, removal and replacement of drainage features, and any other incidentals necessary to complete the various work items. Pavement replacement will be paid under separate pay items.

49. Repair/adjust cleanout – Per Each
50. Installation of Sewer Cleanout–Type 1 Per Each
51. Installation of Sewer Cleanout– Type 2– Per Each
52. Replace Section of Service Line – Per Each
53-64. Restore 6"–24" Main by Point Repair Per Each and Beyond– Per Linear Foot
67-76. Restore 4" – 24" Sewer Force Main by Point Repair – Per Linear Foot

B. Payment: Payment for service line repair shall be made by the unit price bid per each repair made for all sizes of service lines for all depths. The minimum length of service line point repair shall be eight (8) feet. The minimum trench width shall be 3' – 0". No separate pay will be made if the work is done within the limits of service line reconnection.

Payment for main line point repair shall be made by the unit price bid per each repair for varying depths. Depth of repair is determined by averaging the invert elevation of the sewer line at the upstream and downstream manholes of the repair. The pay length of the per each repair shall be eight (8) feet. Beyond Point Repair will be paid per linear feet for each repair, which exceeds eight (8) feet in length.

All pipe fittings, adapters, concrete collar, bedding, and removal and replacement of grass sodding required shall be considered incidental to service line repair.

If no pay item is included for any work required to properly complete a service line repair as specified, the cost to perform said work, including any required removal and replacement of materials, shall be considered incidental to the service line repair.

Payment will be made under:

49. Repair/Adjust Cleanout – Per Each
50. Installation of Sewer Cleanout – Type 1 – Per Each
51. Installation of Sewer Cleanout – Type 2 – Per Each
52. Replace Section of Service Line – Per Each
53-64. Restore 6" – 24" Main by Point Repair – Per Each, and Beyond – Per Linear Foot
67-76. Restore 4" – 24" Sewer Force Main by Point Repair – Per Linear Foot

2.21 RE-POINT EXISTING SEWER MANHOLES OR WET WELL

A. Measurement: The measurement for Re-pointing Existing Sewer Manholes or Wet Wells will be by the square foot manhole surface re-pointed.

B. Payment: The actual quantity of manhole grouted, as measured above, will be paid for the unit price bid and this price and payment will constitute full compensation for furnishing all labor, equipment, material and incidentals necessary to complete this item of work.

2.22 SEWER MANHOLE/WETWELL REHABILITATION BY CEMENTITIOUS LINING

A. Measurement: Measurement for rehabilitation of sewer manholes or wet-wells by cementitious lining will be by the square foot.

B. Payment: Payment shall be made per square foot of the manhole or wet-well from the bench (manholes) or invert (wet-wells) to the bottom of the manhole cover. Payment shall include all materials, labor, grout, equipment and related work items to rehabilitate the manhole or wet-well.

Locating, uncovering, and cleaning the manholes, photographic documentation, preparation of forms and benches, and patching or plugging leaking joints and voids shall be considered incidental to manhole or wet-well wall rehabilitation. Photographic documentation must be submitted prior to requesting monthly payment. No separate payment shall be made for re-pointing of manholes or wet-wells, which are then lined under this item.

2.23 SEWER MANHOLE/WET-WELL REHABILITATION BY EPOXY RESIN LINER

A. Measurement: The measurement for Epoxy Resin Liner of Manholes or Wet-wells will be by the square foot.

B. Payment: The actual quantity of properly lined surface area will be paid for at the unit price bid and this price and payment will constitute full compensation for furnishing all labor, equipment, materials necessary for the proper surface preparation and application of the applied lining compound. This item will only be used at locations directed by the Owner or Engineer upon successful application of Item 106

2.24 MANHOLE REHABILITATION

A. Measurement

84 Manhole Cover Adjustments (Street or Easement) – Per Each

85 Rehabilitate Manhole Bench/Trough – Per Each
86 Remove and Replace Manhole Cone – Per Each
87 Remove and Replace Manhole Wall – Per Vertical Foot
88 Repair Manhole/Line Connection – Per Each

B. Payment

1. Manhole Cover Adjustments -
Elevation adjustment to the top of the existing manholes shall be paid per each manhole cover raised/lowered. This item shall include labor, material, etc. required to locate, excavate and adjust the manhole and/or reset the frame utilizing riser rings and/or grout to the desired level.

2. Rehabilitate Manhole Bench/Trough

Separate payment will be made for manhole benches in manholes that will be rehabilitated. Benches to be constructed in manholes that will not be rehabilitated, as directed by the Engineer, shall be done so in accordance with these specifications. Payment will be made at the contract unit price per each which shall include all materials, labor, incidentals, and equipment needed to construct manholes benches.

3. Remove and Replace Manhole Cone

Remove and Replace Manhole Cone shall be paid for at the contract unit price bid per each which shall include grouting/sealing and any other materials, labor, equipment, and incidentals necessary to complete this item.

4. Remove and Replace Manhole Wall

Remove and replace Manhole Wall shall be paid for at the contract unit price bid per vertical foot which shall include grouting/sealing and any other material, labor, equipment, and incidentals necessary to complete this item.

5. Repair Manhole/Line Connection

Repair Manhole/line Connection shall be paid for at the contract unit price bid per each which shall include testing and sealing with grout and any other material, labor, equipment, and incidentals necessary to complete this item.

Payment will be made under:

84. Manhole Cover Adjustments (Street or Easement)-Per Each
85. Rehabilitate Manhole Bench/Trough – Per Each
86. Remove and Replace Manhole Cone – Per Each
87. Remove and Replace Manhole Wall – Per Vertical Foot
88. Repair Manhole/Line Connection – Per Each

2.25 RE-OPENING SERVICE CONNECTIONS

A. Measurement: Measurement for payment for reopening the existing service connections from either the interior of the pipe or by man-entry shall be per each internal service re-connection of the type indicated.

B. Payment: Payment will be made at the unit price bid per each for remote cutting with brush or man-entry to re-open service connections and shall constitute complete compensation for all labor, equipment and materials required to satisfactorily complete this item of work as specified herein.

2.26 INTERNALLY TRIM PROTRUDING HOUSE CONNECTIONS

A. Measurement: Measurement for payment for internally trimming protruding house connections shall be per each connection trimmed. This item shall include all costs associated with set-up and trimming of the connections. This work will only be done upon prior approval of the Project Manager

B. Payment: Payment will be made for each connection trimmed at the unit prices bid for the item of work, as measured above.

2.27 SET-UP AND OPERATION OF BY-PASS PUMPS

A. Measurement: Separate measurement will be made for set-up and operation of by-pass pumps. These items are in addition to the minimum by-pass pumping requirements of other bid items and will only be allowed upon prior approval of the Project Manager. Each set-up will be measured separately with operation of the pumps being measured on the actual hourly time used. Each "Set-Up" pay item shall include all costs associated with providing of the pumping equipment and up to 350 feet of discharge force main. If additional force main is required to reach the designated discharge point, this additional force main will be measured by the linear foot and be paid for at the appropriate "Extension of Force Main" pay item for the pump size.

B. Payment: Payment for set-up of the by-pass pumps will be at the unit price bid per each for each size required. The item will only be used for pumping beyond the minimum requirements of other bid items. Payment for operation of each size pump shall be at the hourly unit bid prices. Payment for extension of force main shall be per linear foot as measured above.

2.28 REMOVE AND REPLACE PORTLAND CEMENT CONCRETE

A. Measurement: The measurement for Removal and Replacement of Portland Cement Concrete Roadway will be by the square yard.

B. Payment: The actual quantity of applicable roadway removed and replaced will be paid for at the unit price bid and this price and payment will constitute full compensation for furnishing all labor, equipment, materials, wire mesh, if required, replacement of signing and striping and any other incidentals necessary to complete the applicable item of work.

2.29 REMOVE AND REPLACE ASPHALTIC CONCRETE ROADWAY PLACE AND REMOVE TEMPORARY ASPHALTIC CONCRETE ROADWAY

A. Measurement: The measurement for Removal and Replacement of Asphaltic Concrete Roadway, the Placement and Removal of Temporary Asphaltic Concrete Roadway will be by the square yard.

B. Payment: The actual quantity of asphaltic roadway removed within the authorized pay limit as shown on the drawings and indicated in the specifications, and replaced will be paid for at the unit price bid and this price and payment will constitute full compensation for furnishing all labor, equipment, materials and incidentals necessary to complete the item of work. Should the thickness of the existing asphalt pavement exceed the six-inch (6") asphalt concrete minimum thickness required by the standard detail, the Contractor shall match the existing pavement. Payment for the additional thickness satisfactorily placed will be pro-rated based upon the unit price bid of this item of work. For each additional inch of thickness satisfactorily placed, the Contractor will be paid an additional one-sixth (1/6) of the unit price of the pay item. Temporary Asphaltic Roadway will be 2" thick. Payment for

any additional thickness of temporary asphalt will be pro-rated based upon the unit price bid for this item of work.

2.30 REMOVE AND REPLACE CONCRETE DRIVEWAY

A. Measurement: The measurement for Removal and Replacement of Concrete Driveways will be by the square yards.

B. Payment: The actual quantity of applicable driveway removed and replaced will be paid for at the unit price bid and this price and payment will constitute full compensation for furnishing all labor, equipment, materials, wire mesh, saw-cutting, excavation, back-fill, expansion joint material, removal of the existing drive-way and any other related miscellaneous items, necessary to complete the applicable item of work.

2.31 REMOVE AND REPLACE SIDEWALKS

A. Measurement: The measurement for Removal and Replacement of Sidewalks will be by the square yard.

B. Payment: The actual quantity of applicable sidewalk removed and replaced will be paid for at the unit price bid and this price and payment will constitute full compensation for furnishing all labor, equipment, materials, reinforcement if required, and shall include excavation, backfill, temporary asphaltic materials where removal occurred, expansion joint materials and incidentals (i.e. saw-cutting and other related miscellaneous items) necessary to complete the applicable item of work.

2.32 SITE SPECIFIC TRAFFIC CONTROL DEVICE PLAN

A. Measurement: Measurement for payment for development of each plan shall be made on a per each basis for each location directed by the Owner or Project Manager.

B. Payment: Payment for developing Site Specific Traffic Control Device Plans in accordance with the requirements of the specifications shall be made at the unit price bid per each.

The unit price shall be considered full compensation for this item and shall include all labor, materials, Engineering Services and any other services required for development of the Plan.

2.33 TRAFFIC CONTROL DEVICE SET-UP

A. Measurement: Measurement for payment for each set-up shall be made on a per each basis for each location directed by the Owner or Project Manager.

B. Payment: Payment for completing each Traffic Control Device Set-up shall be made at the unit price bid per each. This set-up shall be in accordance with the Site Specific Traffic Control Device Plan, previously approved by the Owner/Project Manager.

2.34 TRAFFIC CONTROL DEVICE OPERATION

A. Measurement: Measurement for payment shall be made on a "per day" basis. A day shall be considered 24 continuous hours of operation. This shall be used only as directed by the Owner or Project Manager.

B. Payment: Payment for each "day" of operation shall be considered full compensation for maintaining the approved traffic control device plan. Maintenance shall include all necessary labor, equipment, materials, traffic engineering services as required, and other incidentals as required. Payment for each fraction of a day will be made as follows. Payment for operation for over 12 to 24 hours will be considered a full day. Payment for 1 to 12 hours will be considered a half day.

2.35 TRAFFIC FLAGMAN

A. Measurement: Measurement for payment shall be made on a unit price basis per hour as required to fulfill the requirements of the Traffic Control Device Plan.

B. Payment: Payment for providing a traffic control flagman shall be made at the unit price bid per hour, as authorized by the Owner or Project Manager. Payment shall constitute full compensation for all labor, materials, travel expenses, supervision, and related items necessary to complete each day of implementation or training as dictated by the Owner.

2.36 POST DIGITAL VIDEO COLLECTION IMPLEMENTATION VHS TAPE CONVERSION

A. Measurement: This item shall be measured on an hourly basis. The contractor shall be eligible for each hour of analog (VHS) source video converted to digital format as specified.

B. Payment: Payment shall constitute full compensation for all labor, materials, expenses, supervision and related items necessary to complete each hour of conversion.

2.37 PENINSULAR TECHNOLOGIES PIPE TECH SCAN

A. Measurement: Measurement for payment shall be made on a per each basis for providing software and licenses for the latest version of the Pipe Tech Scan. Upon implementation by the Owner, the Contractor shall be eligible for a minimum of one (1) licensed copy, which the Owner will reimburse. In the event that the Contractor requires additional licenses, these must be pre-approved by the Owner.

B. Payment: Payment shall constitute full compensation for all software, shipping, reproduction, installation, and related items necessary to procure the item as specified.

2.38 PENINSULAR TECHNOLOGIES PIPE TECH CHECK

A. Measurement: Measurement for payment shall be made on a per each basis for providing software and licenses for the latest version of Pipe Tech Check software. Upon implementation by the Owner, the Contractor shall be eligible for a minimum of one (1) licensed copy, which the Owner will reimburse. In the event that the Contractor requires additional licenses, these must be pre-approved by the Owner.

B. Payment: Payment shall constitute full compensation for all software, shipping, reproduction, installation, and related items necessary to procure the item as specified.

2.39 PENINSULAR TECHNOLGIES PIPE TECH VIEW

A. Measurement: Measurement for payment shall be made on a per each basis for providing software and licenses for the latest version of Pipe Tech View software.

Upon implementation by the Owner, the Contractor shall be eligible for a minimum of one (1) licensed copy, which the Owner will reimburse. In the event that the Contractor requires additional licenses, these must be pre-approved by the Owner.

B. Payment: Payment shall constitute full compensation for all software, shipping, reproduction, installation, and related items necessary to procure the item as specified.

2.40 GBA MASTER SERIES SEWER MASTER SOFTWARE

A. Measurement: Measurement for payment shall be made on a per each basis for providing software and licenses for the latest version of GBA Master Series software. The Contractor shall be eligible for a minimum of one (1) licensed copy, which the Owner will reimburse. In the event that the Contractor requires additional licenses, these must be pre-approved by the Owner.

B. Payment: Payment shall constitute full compensation for all software, shipping, reproduction, installation, and related items necessary to procure the item as specified.

2.41 GBA MASTER SERIES SEWER FIELD MODULE LICENSE

A. Measurement: Measurement for payment shall be made on a per each basis for providing software and licenses for the latest version of GBA Master Series Sewer Master Field Module. The Contractor shall be eligible for a minimum of one (1) licensed copy, which the Owner will reimburse. In the event that the Contractor requires additional licenses, these must be pre-approved by the Owner.

B. Payment: Payment shall constitute full compensation for all software, shipping, reproduction, installation, and related items necessary to procure the item as specified.

2.42 DATA ENTRY CLERK

A. Measurement: Measurement for payment shall be made on a per hour basis for providing data entry services.

B. Payment: Payment shall constitute full compensation for all labor, supervision and related items necessary to complete the item as specified.

TECHNICAL SPECIFICATIONS
SECTION 3

MANHOLES, CATCH BASINS AND WET WELLS INSPECTION

3.01 SCOPE OF WORK

Manholes, catch basins, and wet wells shall be inspected to locate defects which are causing or could cause soil erosion and degradation to the sanitary and storm drainage systems, and/or other underground utilities, or surface structures, and which are allowing leaks into, or out of, the sewer system.

3.02 DOCUMENTATION OF INSPECTION

Observations shall be recorded on a manhole, catch basin, and wet well physical inspection report form. The information recorded on this form shall include location of the structure; relationship of a structure's incoming and outgoing lines; size of lines; depth of lines; condition of cover, ring, wall, bench and invert; type of material; and any other pertinent information which would affect a rehabilitation decision. The "Manhole and Catch Basin Inspection Report" which may be retained from the Rehab Manager, shall be used to record the inspection results.

3.03 COMPLIATION OF DATA

All the data gathered in the field investigation shall be input into the GBA Master Series sewer system management program by the Contractor to generate reports detailing the leaks identified and any further evaluation work to be done. These reports and CD shall be delivered to the Project Manager within one week of field work completion.

TECHNICAL SPECIFICATIONS
SECTION 4

SMOKE TESTING

4.01 GENERAL

Smoke testing is to be accomplished on a limited basis. It will be, at the discretion of the Project Manager, to determine which lines will be smoke tested.

4.02 EXECUTION

The smoke shall be blown by a specially designed gasoline powered blower, located on top of a central manhole. Blower pressure must be adequate to force smoke throughout the isolated sanitary or drainage section and to the ground surface through cracks, channels, etc., through which rain-water inadvertently enters the sanitary or drainage system defects resulting in soil erosion and undermining of streets and sidewalks. The blower shall deliver no less that 4000 cfm. Only one line segment on each side of the blower shall be tested on a set-up. Where practical, inlets to the sanitary or drainage system shall be sandbagged or plugged during smoke testing so that sufficient blower pressure will be developed.

If manholes are located in the street or in a driveway, adequate safety precautions must be taken as specified in these Procedures. Plugs or sandbags shall be placed in the lines entering the far upstream manhole of the test line segments and the line exiting the far downstream manhole of the test line segments. Care must be taken to ensure that sufficient water head in the sewers is not developed to interrupt service to any citizen or create hazardous conditions. When all plugs or sandbags are secure, blowers are placed on top of the open manholes and started. When blower is running, a smoke bomb or liquid smoke is simultaneously induced and placed so that smoke is forced into the sewer segment being tested. Smoke shall be blown for a minimum of five (5) minutes and until all leaks are identified. Color flags shall be placed at each smoke leak (except those on building roofs) to indicate intensity of smoke: heavy intensity – red, medium intensity – yellow, light intensity – blue.

The front, back and side of buildings, sewer rooftop vents, roof drains, storm manholes, inlets, ditches and the surface along the main sewer line shall be checked for the presence of smoke. During the testing, a field inspection test report and service line field inspection test report shall be completed by the Contractor.

4.03 DOCUMENTATION OF TESTS

Observations of leaks at the manhole and along the sanitary or drainpipe shall be recorded on a field inspection report form. The information recorded on this form shall include line number, description and location of any leaks observed. Also included shall be a sketch on the line layout. Digital color photos shall be taken of all manhole leaks, lateral leaks, service line leaks and mainline leaks. The main purpose of the photograph is to locate the leak for future testing or rehabilitation purposes. The digital color photos should show smoke emitting from the located leak. The "Smoke Test Report" form shall be used to record the inspection results. Form shall be distributed at the pre-bid meeting.

4.04 NOTIFICATION OF RESIDENTS

Recognizing that good public relations are an important part of an effective smoke testing program, the following steps for notifications of the citizenry and involvement of local officials shall be included in the program. If possible, twenty-four to forty-eight hours prior to starting work a hand-bill, announcing and describing the smoke testing program; will be distributed to each household or commercial establishment located in the area to be smoke tested. Close communications between the Contractor and local officials, the police department and Fire Department shall be maintained so no major problems will arise. Minimum footage issued in a work order for smoke testing will be 3,000 feet within a limited geographical area. The Contractor shall notify the Project Manager no less that than 48 hours in advance of smoke testing.

Each day of smoke testing, the Contractor shall notify the fire department before testing begins. Any fire stations located in the area of testing should also be notified daily by the Contractor prior to testing. The scheduled work for the day and the general area of testing should be indicated 24-hours in advance. Hospitals, nursing homes, and schools must be notified, by the Contractor, the day of testing no less than one (1) hour prior to the actual test.

4.05 COMPLIATION OF DATA

All the data gathered in the field investigation shall be input into the field module GBA Master Series software program, by the Contractor, to generate reports detailing the leaks identified and any further evaluation work to be done. These reports and field module CD's shall be delivered to the Project Manager within one week of field work completion. The information recorded on the "Smoke Test Form" will include but not be limited to manhole-to-manhole segment number, street address, description and accurate location of any leaks observed. Also, included shall be a sketch of the main line layout and sketches of service/lateral lines, which have leaks. The location with measurements of all leaks shall be shown on the sketches. Digital color photos shall be taken of all leaks. The main purpose of the digital color photo is to locate the leak for future testing or rehabilitation purposes. The digital photo shall always show the colored flag and normally should show smoke emitting from the located leak.

TECHNICAL SPECIFICATIONS
SECTION 5

DYE-WATER FLOODING

5.01 GENERAL

Dye water flooding will be used to trace and identify specific defects, which are causing or could cause soil erosion and degradation to the sanitary or storm drain system, other underground utilities or surface structures. Dye-water flooding will also be used to located cross connections between sanitary and storm sewers. Dye-water flooding may also be used on other inflow services such as leaks within five (5) feet of a manhole. Dye used in this operation shall be non-toxic and shall conform to all local, state and federal guidelines.

5.02 EXECUTION

Dye-water flooding will be accomplished by flooding the ground surface or a line segment with color-dyed water to simulate a storm water runoff condition. Dye-water flooding may be accomplished in conjunction with television inspection. It will be at the discretion of the Project Manager to determine which lines will be dye-water flooded. A minimum waiting permit of 30 minutes for dye-water flooding will be required when no resulting leaks are observed. Water for use in dye-water flooding may be obtained from the Jefferson Parish Water System provided the Contractor obtains and uses a water meter from the Department of Water. The Contractor will be responsible for the payment of all costs for water used.

5.03 DOCUMENTATION OF TEST

The results of the dye-water flooding and testing shall be recorded on a report form. The information recorded on this form shall include location of manhole or line flooded, lines plugged, location (s) flooded along line, locations of leaks observed in sanitary or drain rehabilitation decision. Digital color photos shall be taken of the dye-flooding in progress and when possible, digital color photos shall be made of the leaks located. The "Dye-Water Test Form", shall be used to record the results. A sketch of the line layout with locations plugged and flooded shall be included on the Form.

TECHNICAL SPECIFICATIONS
SECTION 6
CLEANING

6.01 GENERAL

The intent of sewer line cleaning is to remove foreign materials from the lines and restore the sewer to a minimum of 95% of the original carrying capacity or as required for proper seating of internal pipe joint sealing packers. Since the success of the other phases of work depends a great deal on the cleanliness of the lines, the importance of this phase of the operation is emphasized. It is recognized that there are come conditions such as broken pipe and major blockages that prevent cleaning from being accomplished or where additional damage would result if cleaning were attempted or continued. Should such conditions be encountered, the Contractor will not be required to clean those specific manhole sections. A daily log shall be maintained to record the location of the manholes, catch basins, wet wells sanitary and drain lines cleaned; lengths of the lines cleaned; method of cleaning; line sizes; and volume and type of debris removed.

6.02 EQUIPMENT

The equipment, which is expected to be used for the cleaning work on this project, is a high velocity combination sewer cleaner and vacuum truck supplying water at a minimum of 80 gpm at a minimum of 2000 psi.

6.03 EXECUTION

If the cleaning of an entire section cannot be successfully performed from one manhole, the equipment shall be re-setup on the other manhole and cleaning attempted again. If successful cleaning cannot then be performed, it will be assumed that a major blockage exists and the cleaning efforts shall be abandoned until an excavation and "point repair" can be made by Parish supplied forces and the cleaning operation can be resumed. The Contractor shall then be paid for the initial cleaning attempt. After removal of the blockage the Contractor will again clean the line section. The Contractor shall then be paid for the second cleaning at the same rate as the initial cleaning. All sludge, dirt, sand, grease, rocks, and other solid or semi-solid materials resulting from the cleaning operation shall be removed from the downstream manhole of the section being cleaned. Passing material from manhole section, which could cause line stoppages, accumulations of sand in wet wells or damage pumping equipment, will not be permitted. The Contractor shall not be responsible for removing mortar or other material, which is securely attached to the pipe walls or joints.

Cleaning will be determined to be complete when video inspection of the pipe indicates that all loose debris has been removed so that the entire pipe wall is visible.

6.04 DISPOSAL OF MATERIALS

Materials shall be disposed of from the work site not less often than once at the end of each work-day. The Contractor will provide satisfactory evidence daily to the Parish of the amount of material removed from the pipes. These quantities will be subjected to certification, as deemed necessary by the Project Manager. The Contractor may dispose of materials removed during the cleaning process in the Bridge City Treatment Plant drying beds. He must first contact either the superintendent or the operator on duty before disposal. The telephone at the Bridge City Treatment Plant is (504) 731-4490. Any damage caused by improper disposal or use of the drying beds, including roadways damaged by disposal activities, shall be repaired by the Contractor at his own expense. The Contractor shall adhere to all local, state and federal guideline in disposal of this material.

6.05 CLEANING OF WET WELLS

The Contractor will be required to clean sewer system wet wells in conjunction with sewer pipeline cleaning. Removal of all loose debris from wet wells will be required when cleaned.

TECHNICAL SPECIFICATIONS
SECTION 7

ROOT REMOVAL

7.01 GENERAL

Roots shall be removed in the sections designated by the Project Manager where root intrusion is a problem. Special precautions should be exercised to assure removal of visible roots from the joint area, which could hinder normal flow or installation of CIPP. The use of mechanical devices such as kites, balls, rodding machines, expanding root cutters, porcupines, and hydraulic procedures such as high-pressure jet cleaners shall be used, as required. This work will be documented with digital format, before and after removal of the roots, as directed by the Project Manager.

TECHNICAL SPECIFICATIONS
SECTION 8

VIDEO INSPECTION

8.01 GENERAL

When cleaning is completed, the Contractor will proceed with the video inspection.

It is the intent of the Parish to determine applicable cost effective rehabilitation and repair techniques based on video inspection performed on this contract.

8.02 EXECUTION

Pipe inspection shall be accomplished by one of the following methods:

A. Video 6" sanitary or storm sewer service laterals

1. The contractor shall provide a color mini-camera based closed circuit television inspection system. This system will be used to remotely inspect service laterals from either the clean-out or the services line/mainline connection. Picture quality should be a degree of quality to allow a thorough evaluation of service lateral condition.

2. Reports and electronic uploads will be provided per Technical Specification Section 24, Field Inspection Reports and Section 25, Data Management Systems and Reporting Requirements.

B. Television Inspection of 6" thru 21" Mainline Pipe

1. The contractor shall use a pan and tilt articulating lens closed circuit color video system to remotely inspect the pipe. The television camera used for the inspection shall be one specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions. The camera, television monitor, the video recorder, and other components of the video system shall be capable of producing the picture quality required to properly evaluate the condition of the pipe being inspected

2. Depth of flow shall not exceed that shown below for the respective pipe sizes as measured in the manhole.

   Maximum Depth of Flow for Television Inspection.

   6" – 10" pipe . . . . . 20 % of pipe diameter
   12" – 21 " pipe . . . . . 25% of pipe diameter

   The Contractor will be required to dewater pipe dips as necessary to allow the required visibility. This dewatering will be considered incidental to the video inspection. Picture quality and definition shall be to the satisfaction of the Project Manager.

3. Plugging: A sewer line plug shall be installed upstream of the section being worked. The plug shall permit a portion of the sewerage to be released. After the work has been completed, sewage flow should be restored to normal.

   Sewer plugs shall be installed in the influent pipe of a manhole. The plug shall be

equipped with an air hose to permit deflation from above ground. A strong rope should be attached to enable the plug to be quickly pulled out of the manhole. Contractor shall be responsible to prevent a plug from being pushed into the outgoing pipe when stored sewage is released.

4. The camera shall be moved through the line in either direction at a moderate rate, stopping when necessary to permit proper documentation of the pipe's condition. In no case will the television camera be moved at a speed greater than 30 feet per minute. Manual winches, power winches, TV cable, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the pipe conditions shall be used to move the camera through the line. If during the inspection operation the television camera will not pass through the entire section due to an obstruction such as a dropped joint, crushed pipe, etc., the Contractor shall set up his equipment so that the inspection can be performed from the opposite end. If, again, the camera fails to pass through the entire section because of an obstruction, the inspection shall be considered complete at this time. When manually operated winches are used to pull the television camera through the line, radios or other suitable means of communication shall be set up between the two ends of the section being inspected to insure good communications between members of the crew.

5. The importance of accurate distance measurements is emphasized. Measurement for location of defects and service connections shall be done with a metering device located in the video inspection van. The footage reading of the counter must be displayed at all times on the monitor and on videotape. Marking on the cable, or the like, which would require interpolation for manhole depth, will not be allowed. Accuracy of the distance meter shall be checked by use of a tape and the accuracy shall be within 1%.

6. The location of all significant pipe defects shall be recorded on the inspection log including, but not limited to, cracked and missing pipe, degree of pipe deterioration, open or shifted joints, leaking joints, leak estimates, crushed pipe and obstruction. The log shall also show pipe type, size depth, manhole locations, and location of all service connections. In addition, as part of the mainline video inspection, the Contractor must determine and record the street number addresses of all observations.

7. The Contractor shall be responsible for the accuracy of addresses and assessed point repair footages provided under this contract.

8. After issuance of a video inspection work order, but prior to initiation of field inspection work, the Contractor will field survey the work order area to determine of this manhole addresses and address qualifiers. Upon completion of this manhole survey, the Contractor will submit to the Project Manage for approval a complete mainline inventory of all manholes in the work order scope. The Contractor must use the Parish addressing standard for this inventory.

9. A digital MPEG recording, using Peninsular Technology's software, should be made, by the Contractor, of all pipe sections video inspected. The recording will include a complete "Color" video of the entire inspection. The video inspection shall have the capability of permanently displaying, on the video tape, information concerning the pipe inspected, including project number, data, street name, manhole designations, size of pipe and the footage counter. On at least a bi-weekly basis, the contractor will deliver, to the Parish, a computer media containing all field investigation data collected during the week. The Contractor will deliver on a bi-weekly, as well as television inspection data as provided in Sections 24 & 25, which shall be completed during each video inspection. For the duration, the contractor will maintain a local library containing a copy of all video recording

generated on this Contract. All the data gathered in the field investigation shall be uploaded into the GBA Observation Code as minimum of the data fields identified in the attached forms. All codes shall follow the attached Jefferson Parish Standards.

10. Video inspection activities may be coordinated with dye-flooding when directed by the Engineer or Parish's Project Manager.

11. Since Jefferson Parish is in a high rainfall area and all of the original sanitary and drain pipe capacities are needed, no reconstruction method will be considered that does not provide at least 100% flow capacity of the original sanitary and storm sewer pipes.

12. The Contractor shall be paid for the actual linear feet of pipe inspected at the bid unit prices for the various sizes of sanitary or storm sewer pipes. The Contractor shall be paid additional compensation for television inspection when a reverse setup is required because of an obstruction in the pipe by which the camera cannot pass. A "reverse setup" occurs when a line section must be television inspected from both directions because an obstruction halted camera progress from the initial from both directions because an obstruction halted camera progress from the initial setup. The Contractor will be paid for the initial inspection attempt as though it was satisfactorily completed. Whenever a re-inspection is performed after removal of the obstruction, the Contractor shall be paid again at the same rate as for the first video inspection.

13. In addition to digital MPEG video recordings, the Contractor shall provide an analog VHS videotape of pipe inspections at the request of the Owner.

14. All the data gathered in the field investigation shall be input into the GBA Master Series sewer system management program by the Contractor to generate reports detailing he leaks identified and any further evaluation or repair work to be done.

15. All digital vides gathered in the television inspection shall be digitized using Peninsular Technology software only. No other software will be accepted.

TECHNICAL SPECIFICATIONS
SECTION 9

PIPE REHABILITATION BY INSTALLATION OF CURED-IN-PLACE

9.01 GENERAL

It is the intent of this specification to provide for the reconstruction of existing sanitary and storm sewer pipes by forming a new pipe within an existing structurally deteriorated pipe, which has generally maintained its original shape. The cured-in-place- pipe (CIPP) shall provide flow capacity equal to or greater than "100% of the original pipe's flow capacity when new." The installation of the CIPP shall be accomplished by the use of either the Insituform Process or National Liner Process. The process is defined as the reconstruction of sanitary sewer pipe by installation of a thermosetting, resin impregnated, flexible felt, fiber tube (coated on one side with polyethylene) into the existing sanitary sewer pipe utilizing a water column. Curing is accomplished by circulating hot water (or other approved fluid) throughout the length of the tube to cure the thermosetting resin into a hard impermeable pipe. The pipe shall extend the full length of the original pipe and shall provide a structurally sound, jointless, closed-fitting, cured-in-place-pipe.

Rehabilitation of pipelines by pulled-in-place installation of a cured-in-place thermosetting resin pipe shall be used only with approval of the Engineer, or when noted on the work order issued by Jefferson Parish Sewerage Rehab section.

Any process, including those named above or submitted as an approved equal and which has not been installed previously in Jefferson Parish, shall be required to meet the requirements in the General Conditions of these specifications to prove the acceptability of the product.

9.02 REFERENCED SPECIFICATIONS

This specification references ASTM F 1216 (Rehabilitation of pipelines by the inversion and curing of a resin-impregnated tube) and ASTM F1743 (Rehabilitation of pipelines by pulled-in-place installation of a cured-in-place thermosetting resin pipe). ASTM D790, (Test Methods for flexural properties of non-reinforced plastics) which are made a part hereof by such reference and shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and these referenced documents, this specification will govern.

9.03 GENERAL CORROSION REQUIREMENTS

The CIPP shall be fabricated from materials which, when cured, will be chemically resistant to withstand internal exposure to permitted storm-water and sanitary sewerage.

9.04 MATERIALS

A. The flexible felt fiber tube shall be fabricated to a size that when installed it will neatly fit the internal circumference of the conduit specified by the Parish. An allowance shall be made for some circumferential stretching during inversion. Minimum tube thickness shall be as indicated on the bid form. Additional thickness will be used if required by site conditions.

B. The minimum length shall be that deemed necessary by the Contractor to effectively span the distance from the inlet to the outlet of the respective manholes or other termination points unless otherwise specified. The Contractor shall verify the lengths in the field before impregnation of the tube with resin. Individual insertion runs can be made over one or more manhole sections, as determined in the field by the Contractor.

C. Unless otherwise specified, the Contractor shall furnish either a polyester or vinyl ester resin and a compatible catalyst system that provides cured physical strengths as specified herein. Epoxy vinyl ester resins shall be Derakene 411 series or approved equal. Polyester resins shall be manufactured by Alpha Owens Corning or approved equal.

D. The materials used shall result in an installed CIPP flow capacity which will be equal to, or greater than, 100% of the original pipe's flow capacity when new.

E. Physical Strength: The CIPP shall conform to the minimum structural standards, as listed below, or to the then current standards approved by Insituform of North America or Inliner USA.

Physical Characteristic	Test Method	Minimum Values
Flexural Stress	#101 (Modified ASTM D-790)	4,500 psi
Flexural Modules Of Elasticity	#101 Modified ASTM D-790	250,000 psi

9.05 PRE-INSTALLATION PROCEDURES

The following installation procedures shall be adhered to unless otherwise approved by the Project Manager.

A. Safety- The Contractor shall carry out his operations in strict accordance with all applicable OSHA standards. Particular attention is drawn to those safety requirements involving work on an elevated platform and entry into a confined space.

B. Pre-inversion Cleaning – It shall be the responsibility of the Contractor to remove all loose debris, which is located within the sanitary pipe.

C. Pre-inversion Inspection- Inspection of sanitary sewer pipe shall be performed by experienced personnel trained in locating breaks, obstacles and connections by closed circuit television inspection. The interior of the pipe shall be carefully inspected to determine the location of any condition, which may prevent proper installation of the CIPP, and it shall be noted so that these conditions can be corrected. A videotape and suitable log shall be kept for later reference by the Parish and/or Contractor.

D. Line Obstructions – If inspection reveals an obstruction that cannot be removed by conventional pipe cleaning equipment, such as attached mortar, dropped joints, protruding taps, or collapsed pipe, that will prevent completion of the inversion process, then a point repair excavation shall be made by the Parish, or the Parish's designated Contractor, or shall be authorized under this contract to uncover and remove or repair the obstruction.

E. Protruding Tap Removal – A robotic machine capable of grinding off clay and concrete lateral protrusions and reinstatement cutting will be used. The machine will work inside the parent and relined pipe without damaging in parent or relined pipe walls.

Protruding laterals will be ground back to a ¼" protrusion or less. Grinding will be done using a slow speed (1,000 to 1,500 rpm diamond chip covered ball grinder of nominal 1.50" to 2.00" diameter. Segmented, notched or chipping type cutters, which crack and chip the lateral pipe resulting in broken or cracked laterals will not be accepted.

F. By-passing – When required for acceptable completion of an inversion process task and/or to avoid damages due to sewer spills or overflows, the Contractor shall provide for sanitary water flow maintenance around the section or sections of pipe designated for the inversion process. The bypass shall typically be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and by-pass of

sanitary sewerage into the storm-water system will not be allowed.

The Contractor will notify all parties whose service laterals will be out of service and to advise against water usage until the mainline is back in service. Notification will be at least 24 hours prior to CIPP installation and no more that 72 hours prior to lining and done with a "door hanger" as approved by the Director of Sewerage or Assistant.

9.06 INSTALLATION PROCEDURES

A. Wet-Out – The Contractor shall designate a location where the tube will be impregnated ("wet out") with resin using distribution rollers and vacuum to thoroughly saturate the felt fiber tube prior to installation. The Contractor shall allow the Project Manager to inspect the materials and wet out procedure. A catalyst system compatible with the resin and tube shall be used.

B. Insertion – The wet out tube shall be inserted through an existing manhole or other approved access and the application of a fluid column sufficient to fully extend it to the next designated manhole or termination point. The fluid column will be adjusted to be of sufficient height to cause the impregnated tube to hold tight against the existing pipe wall, produce dimples at side connections, and flared ends at the manholes.

C. Curing – After the insertion is completed, the Contractor shall supply a suitable heat source and fluid re-circulation system capable of delivering hot fluid uniformly throughout the section to effect a consistent cure of the resin. The curing temperature shall be that recommended by the resin/catalyst system manufacturer.

The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing fluid supply. Another such gauge shall be placed between the impregnated tube and the invert of the original pipe at the manholes(s) or other termination points to determine the temperatures during the resin curing process. Initial cure shall be considered completed when the exposed portions of the CIPP appear to be hard and the remote temperature sensing device indicates the cure period to be of adequate duration ad recommended by the resin/ catalyst system manufacturer and modified for the inversion process.

D. Cool-down – The Contractor shall cool the hardened CIPP to a temperature below 100 degrees Fahrenheit before relieving the fluid column. Cool fluid may be added to the fluid column while draining hot fluid from a small hole at the opposite end of the CIPP so that a constant fluid column height is maintained until cool-down is completed. Care shall be taken in the release of the fluid column so that a vacuum will not be developed that could damage the newly installed CIPP.

E. Warranty – The finished CIPP shall be continuous over the entire length of an inversion run and be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, pinholes and delamination. It shall also meet the water-tightness test requirement specified below. During the warranty period any defects, which will affect the integrity or strength of the CIPP shall be repaired at the Contractor's expense in a manner mutually agreed to by the Parish and the Contractor. The warranty period is for one year after acceptance by the Parish.

9.07 SEALING AT MANHOLES

If the CIPP fails to make a tight seal at a manhole or other termination point the Contractor shall apply a seal at that point. The seal shall be of a material compatible with the CIPP material.

9.08 RESTORATION OF SANITARY SEWER SERVICE CONNECTIONS

After the CIPP has been cured in place, the Contractor shall re-open the existing active sanitary sewer connections as designated by the Project Manager. This shall be done usually without excavation, and in the case of non-man-entry pipe, (i.e. pipe less than 24" in diameter) from the interior of the pipeline by means of a television camera and a cutting device that re-establishes the sanitary sewer connections to not less than 90% of their original size (when new) and shall be fully functional. Restored openings should be neatly and smoothly cut and without rough edges. Care must be exercised not to damage the CIPP or the existing main or lateral pipes. Cutting devices that use high pressure water shall not be used since they may cause damage to the lateral. All liner materials shall be removed from the internal wall of lateral connection. When fiberglass or other reinforcing fibers are used, that may cause wicking at lateral openings, the lateral opening edges must be sealed with a resin mixture compatible with the tube resin. Connections should not be over cut as this could damage the pipe, break the CIPP seal and/or interfere with future lining of the lateral.

Lateral reinstatement shall be done using either a wire steel brush cutter or a coarse carbide crystal surface type cutter. This method of cutting shall not damage the lateral pipe material and shall result in a smoothed even surface, which is flush with and follows the lateral pipe internal wall contour regardless of penetration geometry. Drill or router bits shall not be allowed. Holes cut outside the lateral opening or oversized cutting (more than 105%) must be corrected to the Owner's satisfaction.

If under normal circumstances the CIPP interior method of tap cutting does not prove satisfactory, an external tie-in of the house connection will be required. This external tie-in shall be made by the Contractor at his expense.

9.09 TESTING

The water-tightness of the CIPP shall be gauged by monitoring the water level in the inversion tube while curing. The water testing must be done directly on the finished product and not on an intermediary hose, which is not part of the final product.

For each installation the Contractor shall perform tests on a sample of the cured installed liner. Test conducted shall include the following.

a. Thickness of sample
b. Flexural strength
c. Flexural modules of elasticity

The method for taking the sample shall be as follows: Place a short section of pipe in the manhole aligned with and the same size as the existing sewer. Run the impregnated tube through the pipe and cure the CIPP under restrained conditions. Label samples with the project number, date of installation, location, manhole number and specified thickness.

These tests will be conducted in accordance with Modified A.S.T.M. D-790. The testing shall be accomplished by an independent, certified testing laboratory provided and paid for by the Parish.

9.10 CLEAN-UP

Upon acceptance of the installation work and testing, the Contractor shall reinstate the project area affected by his operations.

9.11 POST VIDEOS

At the completion of the rehabilitation of a pipe-line a video inspection tape and a digital inspection CD of the completed line segment will be given to the Project Manager by the Contractor. The Project Manager will use this inspection to determine if this line has been restored in a satisfactory fashion.

This inspection shall be performed, one section at a time, by closed circuit color television using a radial view camera. The flow entering the section being inspected shall be plugged as required and previously described. The television camera used for this inspection shall be one that is specifically designed and constructed for such conditions. Picture quality and definition shall be to the complete satisfaction of the Project Manager. If necessary, equipment shall be removed and no payment made until satisfactory inspection is made. The camera shall be pulled through the pipe slowly in order to fully inspect for any defects. Location records shall be kept by the Contractor, which will clearly show the exact location, in relation to adjacent manholes, of all house connections. A computer-generated copy of this log and data disk shall be supplied to the Project Manager. In addition to the digital MPEG video recording, using Peninsular Technology Pt Scan Software, the Contractor shall provide an analog VHS videotape and post video per Section 24 and 25.

9.12 SERVICE RECONSTRUCTION/REPLACEMENT PRIOR TO CIPP

For deteriorated or damaged connections, or ones, which are protruding and cannot be cut internally, the Contractor will excavate and make the repair prior to installation of the CIPP.

After the liner has been put into place and allowed to normalize to ambient temperature as well as recover from any imposed stretch, each existing service connection shall be reconnected to the new liner. A portion of the existing sanitary sewer main, or "Carrier pipe", around each service connection shall be removed to expose the liner pipe and to provide sufficient working space for installing a pre-fabricated polyethylene saddle or an approved alternate. The polyethylene saddle shall be a one-piece saddle equipped with a neoprene gasket so that a complete seal is accomplished when the strap-on saddle is tightened with two (2) stainless steel bands; one on each side. The stub-out attached to the saddle must protrude into the liner a distance equal to the wall thickness of the liner in place. The new 4", 6", or 8" stub-out, or lateral, shall be connected to the existing service line with a flexible PVC coupling, "Fernco" or an approved equal. A service reconnection shall consist of the removal and replacement of any cracked, offset or leaking existing service up to a distance of eight feet (8') from the center of the new liners, measured horizontally.

The new flexible coupling shall be secured to the existing service lateral, and new stub and/or stack, with stainless steel bands.

9.13 PATENTS

The Contractor shall warrant to the Parish that the methods, materials and equipment used herein, where covered by license are furnished in accordance with such license and the prices included in this proposal include applicable royalties and fees in accordance with such license. The Contractor shall warrant and save harmless the Parish against all claims for patent infringement and any loss thereof.

TECHNICAL SPECIFICATIONS
SECTION 10

SERVICE LINE OR MAINLINE POINT REPAIR

10.01 SCOPE OF WORK

The work covered by this item consists of furnishing all labor, material, equipment, supervision, etc. necessary to emergency repair the portion of a service line located within the utility easement or street right-of-way or mainline sewer. The emergency repair shall only be addressed if it is located in an easement or right-of-way (no repair to service lines shall be made on private property). The location of the repair shall be determined by smoke testing the manhole section in which the repair is located. The Engineer shall direct the Contractor to make the line repair. It shall be the Contractor's responsibility to accurately field locate the exact point of emergency repair. Service line emergency repairs are needed to repair a variety of defects including cleanout repair, removing from service disconnected services, repairing storm sewer cross connections, disconnecting surface drains, and repairing faulty service taps.

10.02 MATERIALS

Materials for line repair shall be of the same types as specified in the "Replacement Pipe and Fittings" section and "Sewer Clean-outs" section.

10.03 SMOKE TESTING TO DETERMINE SERVICE LINE POINT REPAIR LOCATION (S)

The Contractor shall perform smoke tests in accordance with Section 4 "Smoke Testing".

10.04 CONTRACTOR SUBMITTALS

Contractor shall submit to the Engineer digital color photographs and records clearly indicating the location of all smoke leaks from service and main lines with a designated manhole section. The location of all line leaks, including locations outside of right-of-way and easements, shall be referenced to a permanent structure.

10.05 METHOD OF POINT REPAIR

After the location of the point repair is determined, the Contractor shall excavate and remove the damaged pipe and replace with new pipe. The minimum length of pipe replaced shall be three (3) feet.

The Contractor shall excavate, shape the bottom of the trench and place the required pipe bedding so that the grade of the replaced pipe matches the existing line grade.

The pipe replacement material shall be gasketed joint, gravity PVC sewer pipe (ASTM D-3034, SDR 26) and have an minimum cell classification of 12454 A or B as defined in ASTM C-1784. Installation shall be in strict compliance with the manufacturer's recommendations. The method of joining the ends of the replace pipe with the existing pipe shall be water-tight. The existing and new pipe shall be joined with a "Fernco" or approved equal adapter and shall be encased with a reinforced concrete collar.

NOTE: Numerous service line point repairs along with lateral line point repairs and obstruction removals are located in areas, which in many instances will require the removal of existing landscaping, structures, etc. Items removed or disturbed shall be replaced to a condition equal to or better than the original condition. All necessary labor, equipment, materials, and other items necessary to complete this work in accordance with the plans and specifications are incidental.

10.06 GENERAL DESCRIPTION OF WORK ITEMS

A. REPAIR/ADJUST CLEANOUT: Cement, plaster, or replace the broken cleanout.

B. INSTALLATION OF SEWER CLEANOUT – TYPE 1: As detailed on Jefferson Parish Standard drawings.

C. INSTALLATION OF SEWER CLEANOUT – TYPE 2: As detailed on Jefferson Parish Standard drawings

D. REPLACE SECTION OF SERVICE LINE: Replace length of service line as specified.

F. RESTORE 6" – 24" MAIN BY EMERGENCY REPAIR: Replace 6" to 24" main line at various depths up to eight (8') feet in depth.

G. RESTORE 6" – 24" MAIN BEYOND EMERGENCY REPAIR: Replace 6" to 24" main line at various depths beyond eight (8') feet in depth.

H. RESTORE 4" – 24" SEWER FORCE MAIN REPAIRS: Remove and replace a section of 4" to 24" force main less than eight (8') feet in depth.

G. RESTORE 4" – 24" MAIN BEYOND EMERGENCY REPAIR: Replace a 4" to 24" main line at various depths beyond eight (8') feet in depth.

10.07 REMOVAL OF DEBRIS

Excess excavated material and debris are to be removed from the work site daily. Cost of hauling excess excavation and debris will be included in the price bid for "Service Line Repair"

10.08 TESTING

Upon completion of the point repairs on a designated line segment, the Contractor shall perform a smoke test as previously described to check the integrity of the repairs made. This smoke test shall be done upon completion of all repairs in a manhole section and prior to backfilling. The Engineer and Contractor shall check each repair and if any smoke is detected at the repair location, the Contractor shall redo his repair and repeat the smoke test at no additional cost to the Owner. All smoke testing and re-testing shall be considered incidental to the point repair.

TECHNICAL SPECIFICATIONS
SECTION 11

REPLACEMENT PIPE, FITTINGS AND MISCELLANEOUS ITEMS

11.01 SCOPE OF WORK

The Contractor shall furnish all labor, materials, equipment and incidentals to complete an "Emergency Repair" using materials as described herein and being compatible to the removed materials.

11.02 SUBMITTALS

A. The Contractor shall submit to the Engineer, within ten days, after signing the contract, a list of materials to be furnished and the names of his suppliers.

B. If materials, indicated in these specifications, are not commonly stocked, the Contractor shall state the approximate time required to obtain these materials.

C. The Contractor shall submit and shall comply with pipe manufacturer's recommendations for handling, storing, and installing pipe and fittings.

D. The Contractor shall submit pipe manufacturer's certification of compliance with these specifications

11.03 MATERIALS

11.03.01 Poly-vinyl Chloride (PVC) Pipe used for Gravity Sewer

A. Poly-vinyl Chloride (PVC) gravity sewer pipe and fittings, 4" through 16" diameter, shall conform to ASTM D-3034, "Type PSM Poly-vinyl Chloride (PVC) Sewer Pipe and Fittings", SDR—26.

B. Poly-vinyl Chloride (PVC) gravity sewer pipe and fittings, 18" through 24" diameter, shall conform to ASTM F-679, "Poly-vinyl Chloride (PVC) Large-Diameter Plastic Pipe and Fitting", T-2 wall thickness

C. All gravity sewer lines with more than ten feet (10') of cover and any pipe under roadways with less than four feet (4') of cover shall conform to the specifications "Poly-vinyl Chloride (PVC) Pipe C-900"

D. The supplier shall be responsible for the performance of all inspection and testing requirements specified in ASTM D-3034 or ASTM F-679, as applicable. Complete records of inspections, examinations and test shall be kept and submitted to the Engineer. The Engineer reserves the right to perform any of the inspections set forth in the specifications where such inspections are deemed necessary to assure that materials and services conform to the prescribed requirements.

E. The pipe shall be joined with an integral bell and spigot type rubber gasketed joints. Each integral bell joint shall consist of a formed bell with a rubber gasket. Gaskets shall conform to ASTM F-477. Joints shall permit contraction, expansion and settlement, and yet maintain a water-tight connection.

F. Pipe shall be furnished in standard laying lengths not exceeding 20 feet (20').

G. All fittings and accessories shall be furnished by the pipe supplier and shall have bell and/or spigot configurations compatible with the pipe.

11.03.02 Ductile Iron Pipe and Fittings

A. All ductile iron pipe shall be ductile iron manufactured in accordance with the requirements of the latest revision of AWWA C 150 and C 151 and shall conform to ANSI specifications A21.51 and thickness design A21.50-76. Pipe supplied shall be Class 51 for pipe eight inches (8") and smaller, Class 52 for pipe ten inches (10") and larger, and shall meet all requirements for push-on rubber gasketed joints in accordance with AWWA C111.

B. Unrestrained joint pipe shall be supplied in lengths not in excess of 21 feet. Pipe shall be either the rubber-ring type push-on joint or standard mechanical joint pipe as manufactured by the American Cast Iron Pipe Company, U.S., Pipe and Foundry Company, Clow Corporation or approved equal.

C. Fittings shall meet the requirements of ANSI/AWWA C110. Rubber gaskets shall conform to ANSI A21.11 mechanical and push-on type joints.

D. All ductile iron pipe and fittings less than twelve inches (12") in diameter and larger shall have cement mortar lining and bituminous seal coat on the inside in accordance with AWWA C104, and coal tar enamel coat on the outside in accordance with ANSI A 21.4.

All ductile iron pipe and fittings less than twelve inches (12") in diameter and larger shall have a polyethylene lining on the inside and a coal tar enamel coating on the outside. Polyethylene shall comply with ASTM S1248, compounded with carbon black to provide resistance to ultra violet rays during ground storage. The polyethylene shall be 40 mils thick and shall be bonded to the interior of the pipe and fittings by a heat process. The coal tar enamel outside coating shall be in accordance with ANSI A21.4.

E. Restrained joints shall be provided at locations shown on the drawings. Restrained joint pipe and fittings for twelve inches (12") and smaller diameter pipe shall be "Mechanical Joint with Retainer Gland" as manufactured by American Cast Iron Pipe Company, "Lok-Tyton" as manufactured by U.S. Pipe Company, "Super-Lock" as manufactured by Clow Corporation, or equal

11.04 IDENTIFICATION

Each length of pipe and each fitting shall be marked with the name of manufacturer, size and class. All gaskets shall be marked with the name of manufacturer, size, and proper insertion direction.

11.05 MANHOLE CONNECTIONS

Pipe stubs for all manhole connections shall not exceed two feet (2') in length. Caps shall be furnished where required.

11.06 LAYING POLY-VINYL CHLORIDE (PVC) PIPE AND FITTINGS

A. Poly-vinyl Chloride (PVC) pipe shall be laid in accordance with the instructions of the manufacturer, as shown on the drawings and as specified herein. As soon as the excavation is completed to normal grade, as indicated on the drawings, the Contractor shall immediately place bedding in the trench. Then the pipe shall be firmly bedded to conform accurately to the line and grade indicated on the drawings. Embedment of pipe shall conform to the details shown on the drawings and ASTM D2321, "Recommended Practice for Underground Installation of Flexible Thermoplastic Sewer Pipe". Bell holes shall be excavated so that after installation, only the pipe barrel shall bear upon the trench bottom. Proper selection and placement of bedding and backfill materials are necessary to minimize deflection of the pipe diameter. No blocking under the pipe will be permitted, except as allowed in these specifications.

B. The Contractor shall use care in handling and installing pipe and fittings. Storage of pipe on the job site shall be done in accordance with the pipe manufacturer's recommendation and with approval of the Engineer. Under no circumstances shall pipe or fittings be dropped either into the trench or during unloading. The interior of the pipe shall be kept clean of oil, dirt, and foreign matter, and the machined ends and couplings shall be wiped clean immediately prior to joining.

C. The Contractor shall use a PVC pipe cutter where necessary to cut and machine all PVC pipe in the field. A "full insertion mark" shall be provided on each field-cut pipe end. Field-cut pipe shall be beveled with a beveling tool made especially for plastic pipe. Bevels shall be in accordance with the manufacturer's requirements.

D. Each length of pipe and each fitting shall be marked with the normal size, the SDR designation, the name of the manufacturer or his trademark, and the date of manufacture.

E. Rubber gaskets shall be marked with manufacturer's identification sizes and proper insertion direction.

F. The interior of the pipe and the jointing seal shall be free from sand, dirt, and trash before installing in the line. Extreme care must be taken to keep the bells of the pipe free from dirt and rocks so joints may be properly assembled without over stressing the bells. The jointing of the pipe shall be done in strict accordance with the pipe manufacturer's instructions and shall be done entirely in the trench.

G. Each time the work is halted for more than one (1) hour, the ends of the pipe shall be closed to prevent foreign material from entering the pipe.

H. In all cases where this type of pipe is installed, a metallic tape shall be affixed to the top of the pipe. The tape shall be Type A-1 Alertine Detectable Marking Tape or approved equal.

11.07 LAYING DUCTILE IRON PIE AND FITTINGS

A. All buried piping shall be installed in accordance with recommendations of the pipe manufacturer and as specified herein.

B. Care shall be taken in handling, storage, and installation of pipe and fittings to prevent injury to the pipe or coating. All pipe and fittings shall be examined before laying, and no piece shall be installed which is found to be defective. All damage to the pipe coating shall be repaired according to the manufacturer's recommendations.

C. Rubber gaskets shall be marked with manufacturer's identification sizes and proper insertion direction.

D. The interior of the pipe and the jointing seal shall be free from sand, dirt, and trash before installing in the line. Extreme care must be taken to keep the bells of the pipe free from dirt and rocks so joints may be properly assembled without over stressing the bells. The jointing of the pipe shall be done in strict accordance with the pipe manufacturer's instructions and shall be done entirely in the trench.

E. Each time the work on the sewer is halted more than one (1) hour, the ends of the pipe shall be closed to prevent foreign material from entering the pipe.

11.08 MARKER TAPE

Marker tape shall be installed on all lines. The color shall be yellow with "CAUTION – SEWER LINE BURIED BELOW" written on it. The tape shall be two inches (2") wide and located between the bedding and the backfill along the centerline of the pipe.

11.09 PIPE COUPLINGS

Repairs made to similar pipe shall be accomplished with the use of similar repair couplings or spool pieces. Repairs made to dissimilar gravity sewer line pipe (i.e., PVC to clay, transit or other) shall be accomplished with the use of flexible elastomeric P.V.C. pipe couplings or adapters as manufactured by Fernco, Indiana Seal or approved equal. All pipe couplings shall attach to the existing and replacement pipes by means of stainless steel bands with screw and housing to assure a positive seal around the pipe.

TECHNICAL SPECIFICATIONS
SECTION 12

SEWER CLEAN-OUTS AND MANHOLES

12.01 SCOPE OF WORK

The Contractor when ordered will be required to install service lateral clean-outs. A sewer clean-out installation shall consist of all pipe, fittings, adapters, castings, and/or cover boxes. Sewer clean-outs shall be either Type 1 or Type 2 installation as shown of the Standard Details. The type to be installed will be indicated on the work order. Materials for manhole rehabilitation are also covered herein.

12.02 MATERIALS

A. Approved pipe and fittings, (See "Replacement Pipe and Fittings")

B. Clean-out Frame & Cover: Vulcan V-8504 or approved equal.

C. Manhole Walls and Cones: Manufactured in accordance with ASTM C478.

12.03 EXECUTION

A. Sewer clean-outs are to be installed as indicated on the Standard Detail sheet. Sewer clean-out piping will be installed from the depth of the service lateral to the existing grade line, so that the sewer clean-out plug fitting and cover are flush with the grade line.

Sewer clean-out frame and cover are to be installed flush with grade line. The frame will be encased in a 4-inch thick square concrete footing extending 3-inches around the clean-out frame.

B. Each manhole or cone section shall be installed as indicated on the drawings and specified herein. Wall sections shall be furnished in lengths required to match the existing lengths as closely as possible.

Joints between the sections shall comply with ASTM C443 and be sealed with neoprene gaskets, minimum thickness 3/16 inch or ram neck joint material.

TECHNICAL SPECIFICATIONS
SECTION 13

CURED-PLACE-LATERAL RECONSTRUCTION FROM CLEAN-OUT

13.01 DESCRIPTION

Work under this item shall provide for the reconstruction of lateral sanitary sewer pipelines with the installation of resin impregnated, flexible felt tubes. The resin impregnated flexible felt tube shall be installed into the existing service using a pull rope or a push rod. Curing shall be accomplished with hot water or other methods approved by the Engineer. The curing method shall be suitable for the selected resin, such that the resin produces a hard, impermeable pipe wall. The cured-in-place pipe (CIPP) should extend throughout the initially defined and agreed upon length in a jointless, continuous, tight fitting, watertight pipe-within-a-pipe to effect a seal with the mainline reconstructed pipe. Approved Products are those provided by LMK Enterprises and Insituform Technologies. Any process, including those named above or submitted as an approved equal, which has not been previously installed in the sewer collection system under the jurisdiction of the Jefferson Parish Department of Sewerage, shall be required to meet the requirements of the General Conditions Section of these specifications to prove acceptability of the product.

Materials shall be governed by the requirements of Technical Specification Section 9 – "Pipe Rehabilitation by installation of Cured-in-Place Pipe".

13.02 REFERENCE SPECIFICATIONS

This specification references ASTM test methods, which are made a part thereof by such reference and shall be the latest edition and revision thereof.

13.03 GENERAL CORROSION REQUIREMENTS:

The finished cured-in-place product shall be fabricated from materials which when cured will be chemically resistant to withstand exposure to domestic sewage.

All constituent materials will be suitable for service in the environment intended. The final product will not deteriorate, corrode or lose structural strength that will reduce the projected product life.

13.04 CIPP MATERIALS

A flexible felt tube shall be fabricated to a size that when installed will neatly fit the internal circumference of the conduit specified by the Owner. Allowance shall be made for circumferential stretching during insertion.

The minimum length shall be that deemed necessary by the Installer, as approved by the Owner, to effectively span the distance from the lateral connection at the main to the desired termination location in the service lateral pipe. The Installer shall verify the lengths in the field before impregnation.

Unless otherwise specified, the Installer shall furnish a specially designed, unsaturated, polyester resin and catalyst system compatible with the CIPP process that provides cured physical strengths specified herein.

13.05 PHYSICAL STRENGTH:

The structural performance of the finished pipe must be adequate to accommodate all anticipated loads throughout its design life. No cured-in-place pipe reconstruction technology will be allowed that requires bonding to the existing pipe for any part of its structural strength. Only resin vacuum impregnation will be allowed. If reinforcing materials (fiberglass, etc.) are used, the reinforcing

materials must be fully encapsulated within the resin to assure that the reinforcement is not exposed, either to the inside of the pipe or at the interface of the CIPP and the existing pipe.

Design methods are to be derived from traditionally accepted pipe formulae for various loading parameters and modes of failure. All equations will be modified to include ovality as a design parameter. The design method shall be submitted to the Engineer for approval.

The cured CIPP shall conform to the minimum structural standards as listed below.

CURED CIPP	ASTM Standards	Results
Flexural stress	ASTM D 790	4,500 psi
Flexural Module of Elasticity	ASTM D 790	250,000 psi

13.06 INSTALLATION PREPARATION

The following installation procedures shall be adhered to unless otherwise approved by the Owner's representative.

Safety – The Installer shall carry out his operations in strict accordance with all applicable OSHA standards. Particular attention is drawn to those safety requirements involving entering confined spaces.

Cleaning of Sewer Line – It shall be the responsibility of the Installer to remove all internal debris out of the sewer line (designate cleaning method here or refer to standard sewer cleaning specification, as contained in Technical Specification Section 6 – Cleaning)

Inspection of Pipelines – Inspection of pipelines shall be performed by experienced personnel trained in locating breaks and obstacles by closed circuit television. The interior of the pipeline shall be carefully inspected to determine the location of any conditions, which may prevent proper installation of CIPP into the pipelines, and it shall be noted so that these conditions can be corrected. A videotape and suitable log shall be kept for later reference by the Owner.

Bypassing Sewage – The Installer, when required, shall provide for the flow of sewage around the section or sections of mainline pipe where the service lateral designated for CIPP is located. The bypass shall be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be of adequate capacity and size to handle the flow.

It is required that the service lateral be inactive during the time of installation. This is normally accomplished by turning off the homeowner's services or requesting that the homeowner relinquish using his services during the required period of installation.

Line Obstruction – It shall be the responsibility of the Installer to clear the line of obstructions such as solids, dropped joints, roots or collapsed pipe that will prevent the insertion of the CIPP material. If inspection reveals and obstruction that cannot be removed by conventional sewer cleaning equipment, then the Installer shall make a point repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the Owner's representative prior to the commencement of the work and shall be considered as a separate pay item.

13.07 INSTALLATION OF CIPP

The Installer shall designate a location where the felt tube will be vacuum impregnated prior to installation. The Installer shall allow the Owner to inspect the materials and "Wet-out" Procedure. A catalyst system compatible with the resin and felt tube shall be used.

The wet-out tube shall be attached to a pull cable strung from the lateral and main to the downstream manhole. The tube will be pulled through the lateral so that the end ring projects into the main. The tube will firmly seated against the mainline wall by pulling back on the end of the tube. The tube shall be inflated with water or other appropriate medium to fully expand the tube and press it firmly against the walls of the existing lateral.

Curing – After inversion is completed, the Installer shall supply suitable heat source and water recirculation equipment. The equipment shall be capable of delivering hot water or other approved heat source throughout the section by means of a pre-strung hose to uniformly raise the water temperature above the temperature required to affect a cure of the resin. This temperature shall be determined by the resin/catalyst system employed.

The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing water supply. Water temperature in the line during the cure period shall be recommended by the resin manufacturer.

Initial cure shall be deemed to be completed, when inspection of the exposed portions of the CIPP appears to be hard and sound and the temperature gauge indicates that the temperature is of a magnitude to realize an exotherm. The cure period shall be of a duration recommended by the resin manufacturer, as modified for the CIPP process, during which time the recirculation of the water and cycling of the heat exchanger to maintain the temperature continues.

Cool-down – the Installer shall cool the hardened CIPP to a temperature below 100 degree F before relieving the pressure in the pressure apparatus. Cool-down may be accomplished by the introduction of cool air into the pressure apparatus to replace water being forced out of the pressure apparatus. Care shall be taken to maintain proper pressure throughout the cure and cool-down period.

Finish – The finished CIPP shall be continuous over the entire length of an inversion run and be as free as commercially practically of dry spots, lifts, and delamination. The lateral CIPP shall not inhibit the closed circuit television post video inspection of the mainline or service lateral pipes.

During the warranty period, any defects which will affect the integrity of strength of the CIPP shall be repaired at the Installer's expense in a manner mutually agreed upon by the Owner and the Installer.

After the work is completed, the Installer will provide the Owner with a videotape showing the completed work including the restored conditions.

13.08 CLEAN-UP

Upon acceptance of the installation work, the Installer shall reinstate the project area affected by his operations.

13.09 POST VIDEO

At the completion of the rehabilitation of a pipe-line a video inspection tape of the completed line segment will be given to the Project Manager by the Contractor. The Project Manager will use this inspection to determine if this line has been restored in a satisfactory fashion.

This inspection shall be performed, one section at a time, by closed circuit color television. The flow entering the section being inspected shall be plugged. The television camera used for this inspection shall be one that is specifically designed and constructed for such conditions. Picture quality and definition shall be to the complete satisfaction of the Project Manager. If necessary, equipment shall be removed and no payment made until satisfactory inspection is made. The camera shall be pushed through the pipe slowly in order to fully inspect for any defects. Location records shall be kept by the Contractor which will clearly show the exact location, in relation to adjacent manholes a computer-generated copy of this log and data disk shall be supplied to the Project Manager. In addition to the digital MPEG video recording, using Peninsular Technologies PT Scan software, the Contractor shall provide an analog VHS videotape and the post video per Section 24 and 25.

TECHNICAL SPECIFICATIONS
SECTION 14

CIPP SERVICE LATERAL RECONSTRUCTION FROM MAINLINE PIPE (LONG SEGMENT)

14.01 DESCRIPTION

Work under this item shall provide for the rehabilitation of service lateral sanitary sewer lines, normally without excavation, by the installation of a resin-impregnated, flexible, felt tube inverted into the existing service lateral utilizing a pressure apparatus positioned in the mainline pipe. Curing shall be accomplished by circulating hot water or other approved method to cure the resin into a hard impermeable pipe within-a-pipe. When cured, the cured-in-place pipe (CIPP) should extend over the length of the inversion in a continuous tight fitting, watertight pipe-within-a-pipe to effect a water seal with the rehabilitated mainline pipe.

Materials shall be governed by the requirements of Technical Specifications Section 9 - "Pipe Rehabilitation by installation Cured-in-Place Pipe".

14.02 REFERENCE SPECIFICATIONS

This specification references ASTM test methods, which are made a part hereof by such reference and shall be the latest edition and revision thereof.

14.03 GENERAL CORROSION REQUIREMENTS

The finished cured-in-place product shall be fabricated from materials which when cured will be chemically resistant to withstand internal exposure to domestic sewage.

All constituent materials will be suitable for service in the environment intended. The final product will not deteriorate, corrode or lose structural strength that will reduce the projected product life.

14.04 CIPP MATERIALS

A flexible, felt tube shall be fabricated to a size that when installed will neatly fit the internal circumference of the conduit specified by the Owner. Allowance shall be made for circumferential stretching during insertion.

The minimum length shall be that deemed necessary by the Installer, as approved by the Owner, to effectively span the distance from the lateral connection at the main to the desired termination location in the service lateral pipe. The installed shall verify the lengths in the field before the tube resin impregnation begins

One end of the tube shall include a flexible felt brim similar to the projectory edge of a top hat. This shall be a minimum 2 inches wide and shall be of the general size and angle of the service connection.

Unless otherwise specified, the Installer shall furnish a specially designed unsaturated, polyester resin and catalyst system compatible with the CI PP process that provides cured physical strengths specified herein.

14.05 PHYSICAL STRENGTH

The structural performance of the finished pipe must be adequate to accommodate all anticipated loads throughout its design life. No cured-in-place pipe rehabilitation technology will be allowed that requires bonding to the existing pipe for any part of its structural strength. Only resin vacuum impregnation will be allowed. If reinforcing materials (fiberglass, etc.) are used, the reinforcing materials must be fully encapsulated within the resin or at the interface of the CIPP and the existing pipe.

Design methods are to be derived from traditionally accepted pipe formulae for various loading parameters and modes of failure. All equations will be modified to include ovality as a design parameter. The design method shall be submitted to the Engineer for approval.

The final CIPP shall conform to the minimum structural standards as listed below:

Final CIPP	**ASTM Standard**	**Results**
Flexible Stress	ASTM D790	4,500 psi
Flexural Modulus of Elasticity	ASTM D790	250,000 psi

The effectiveness of the seal between the installed service lateral CIPP and the mainline pipe shall be documented by third-party testing. A written report, which includes the test procedure and results shall be a required submittal to the Engineer for approval.

14.06 INSTALLATION PREPARATION

The following installation procedures shall be adhered to unless otherwise approved by the Owner's representative.

Safety – The Installer shall carry out his operations in strict accordance with all applicable OSHA standards. Particular attention is drawn to those safety requirements involving entering confined spaces.

Cleaning of Sewer Line – It shall be the responsibility of the Installer to remove internal debris out of the sewer line (designate cleaning method here or refer to standard sewer cleaning specification, as contained in Technical Specification Section 6 – Cleaning)

Inspection of pipelines -_ Inspection of pipelines shall be performed by experienced personnel trained in locating breaks and obstacles by closed circuit television. The interior of the pipeline shall he carefully inspected to determine the location of any conditions which may prevent proper installation of CIPP into the pipelines, and it shall be noted so that these conditions can be corrected. A videotape and suitable log shall be kept for later reference by the Owner.

Bypassing Sewage - The Installer, when required, shall provide for the flow of sewage around the section or sections of mainline pipe where the service lateral designated for CIPP is located. The bypass shall be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be of adequate capacity and size to handle the flow.

It is required that the service lateral be inactive during the time of installation. This is normally accomplished by turning off the homeowner's services or requesting that the homeowner relinquish using his services during the required period of installation.

Line Obstruction – It shall be the responsibility of the Installer to clear the line of obstructions such as solids, dropped joints, roots or collapsed pipe that will prevent the insertion of the CIPP material. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, then the Installer shall make a point repair excavation to uncover and remove or repair the obstruction. Such excavation shall be approved in writing by the Owner's representative prior to the commencement of the work and shall be considered as a separate pay item.

14.07 CIPP INSTALLATION

The Installer shall designate a location where the felt tube will be resin vacuum impregnated prior to installation. The Installer shall allow the Owner to inspect the material and resin impregnation procedure. A catalyst system compatible with the resin and felt tube shall be used.

The resin impregnated tube shall be loaded inside pressure apparatus above ground. The pressure apparatus, with an end attached to a robotic device shall be winched through the mainline pipe to the service connection. The robotic device, together with a television camera will be used to position the pressure apparatus' inversion elbow at the service connection opening. Air pressure, supplied to the pressure apparatus through an air hose, shall be used to invert the resin impregnated tube though the lateral pipe. The inversion head will be adjusted to be of sufficient pressure to cause the impregnated tube to invert completely in the lateral pipe and hold the tube tight to the pipe wall. Care shall be taken timing the elevated curing temperatures so as not to over-stress the tube.

The pressure apparatus shall include a bladder, which inflates in the mainline pipe effectively seating the brim portion of the tube tightly against the service connection.

Curing — After inversion is completed, the Installer shall supply a suitable heat source and water recirculation equipment. The equipment shall be capable of delivering hot water or other approved heat source throughout the section by means of a pre-strung hose to uniformly raise the water temperature above the temperature required to affect a cure of the resin. This temperature shall be determined by the resin/catalyst system employed.

The heat source s hall he fitted with suitable monitors to gauge the temperature of the incoming and outgoing water supply. Water temperature in the line during the cure period shall ho recommended by the resin manufacturer.

Initial cure shall be deemed, to be completed, when inspection of the exposed portions of the CIPP appear to be hard and sound and the temperature gauge indicates that the temperature is of a magnitude to realize an exotherm. The cure period shall be of a duration recommended by the resin manufacturer, as modified for the CIPP process during which time the recirculation of the water and cycling of the heat exchanger to maintain the temperature continues.

Cool-down —The Installer shall cool the hardened CIPP to a temperature below 100 degrees F before relieving the pressure in the pressure apparatus. Care shall be taken to maintain proper pressure throughout the cure and cool-down period. Cool-down may be accomplished by the

introduction of cool air into the pressure apparatus to replace water being forced out of the pressure apparatus. Care shall be taken to maintain proper pressure throughout the cure and cool-down period.

Finish - The finished CIPP shall be continuous over the entire length of an inversion run and be as free as commercially practical of dry spots, lifts and delamination. The lateral CIPP shall not inhibit the closed circuit television post video inspection of the mainline or service lateral pipes.

During the warranty period, any defects, which will affect the integrity of strength of the CIPP shall be repaired at the Installer's expense in a manner mutually agreed upon by the Owner and the Installer.

After the work is completed, the Installer will provide the Owner with a CD showing the completed work including the restored conditions.

14.08 **CLEAN-UP**

Upon acceptance of the installation work, the Installer shall reinstate the project area affected by his operations.

14.09 **POST VIDEOS**

At the completion of the rehabilitation of a pipe-line a video CD of the completed line segment will be given to the Project Manager by the Contractor. The Project Manager will use this inspection to determine if this line has been restored in a satisfactory fashion.

This inspection shall be performed, one section at a time, by closed circuit color television. The flow entering the section being inspected shall be plugged. The television camera used for this inspection shall be one that is specifically designed and constructed for such conditions. Picture quality and definition shall be to the complete satisfaction of the Project Manager. If necessary, equipment shall be removed and no payment made until satisfactory inspection is made. The camera shall be pulled through the pipe slowly in order to fully inspect for any defects. Location records shall be kept by the Contractor, which will clearly show the exact location, in relation to adjacent manholes, of all house connections. A computer-generated copy of this log and data disk shall be supplied to the Project Manager. In addition to the digital MPEG video recording, the Contractor shall provide an analog VHS videotape and post video per Section 24 and 25.

TECHNICAL SPECIFICATIONS
SECTION 15

LATERAL CONNECTION RECONSTRUCTION FORM MAINLINE BY CIPP METHODS (SHORT SEGMENT)

15.01 DESCRIPTION

Work under this item will consist of the reconstruction of service lateral connection, normally without excavation, by the installation of the resin impregnated flexible felt tube inverted into the existing service lateral utilizing an apparatus position in the mainline pipe. Curing shall be accomplished by circulating hot water or other approved method to cure the resin into a hard impermeable pipe. When cured, the pipe should extend over the length of the inversion in a continuous tight fitting, watertight, pipe-within-a-pipe to affect a seal with the reconstructed pipe. This method will be used in locations where no clean out exists, and installation of one to five foot lengths of lining material would repair/reinforce the lateral to mainline connection.

Materials shall be governed by the requirements of Technical Specification Section 9 – "Pipe Rehabilitation by installation of Cured-in-Place-Pipe".

15.02 METHOD

A resin impregnated tube is loaded inside a pressure apparatus above ground. In the case of a non-man entry pipe, the pressure apparatus is attached to a robotic placement device and winched through the main pipe to the service connection. Air supplied to the pressure apparatus is used to invert the Tube and hold it tightly against the lateral pipe wall. Pressure is maintained throughout a heat induced cure by either air/stream pressure, hot water pressure, or a combination of both. Upon completion of cure, the pressure apparatus is removed leaving the newly formed CIPP.

This method involves the use of standard and non-standard felt tubes and inversion techniques, and a "Top Hat" seal at the mainline, in order to produce a CIPP in the lateral with one end remotely accessible and the other end not accessible. Utilizing this method there is no subsequent cutting and trimming nor a remote end to be stripped out.

TECHNICAL SPECIFICATIONS
SECTION 16

PRESSURIZED FORCE MAIN
PIPE REHABILITATION BY REINFORCED CURED-IN-PLACE PIPE

16.01 GENERAL

It is the intent of this specification to provide for the reconstruction of existing pressurized sewer force main by installing a Reinforced Cured-In-Place Pressure Pipe (RCPP) within an existing structurally deteriorated pipe which has maintained its original shape. The rehabilitation shall be accomplished by the use of the Insituform® RPP Process or an Engineer approved equal. The process is defined as the reconstruction a deteriorated sanitary pressure pipe by installation of a thermosetting, resin impregnated, reinforced flexible felt/fiber tube (coated on one side with polyethylene) utilizing a water column. Curing is accomplished by circulating hot water (or other approved fluid) throughout the length of the tube to cure the thermosetting resin into a hard impermeable pipe. The pipe shall extend the full length of the original pipe and shall provide a structurally sound, jointless, close-fitting, cured-in-place pressure pipe.

16.02 REFERENCED SPECIFICATIONS

This specification references ASTM F1216 (Rehabilitation of pipelines by inversion and curing a resin impregnated tube), and ASTM D5813 (Cured-In-Place, Thermosetting Resin Sewer Pipe. In case of conflicting requirements between this specification and these referenced documents, this specification will govern.

16.03 GENERAL CORROSION REQUIREMENTS

The RCPP shall be fabricated from materials which, when cured, will be chemically resistant to withstand internal exposure to permitted storm water and sanitary sewerage.

16.04 MATERIALS

A. The reinforced flexible felt/fiber tube shall be fabricated to a size that when installed it will neatly fit the internal circumference of the conduit Nominal tube thickness shall be per design guidelines as specified herein and indicated on the bid form. Additional thickness will be used as required by design requirements.

B. The minimum length shall be that deemed necessary by the Contractor to effectively span the distance from the inlet to the outlet of the respective termination points unless otherwise specified. The Contractor shall verify the lengths in the field before impregnation of the tube with resin.

C. Unless otherwise specified the Contractor shall furnish a flexible vinyl ester resin and catalyst system such as Dow Derekane 411 or Interplastic 8319 that provides cured physical strengths as specified herein.

D. The materials used shall result in an installed CIPP flow capacity, which will be equal to, or greater than, 100% of the original pipe's flow capacity when new.

E. Internal mechanical compression fit end seals will be required to seal the ends of the RCPP within the existing force main. Victaulic Depend-O-Lock (BRICO) end seals or approved equal are required.

16.05 DESIGN REQUIREMENTS

A. Physical Strength: The RCPP shall conform to the minimum standards, as listed below or to the current standards approved by ASTM. Pipe thickness shall be designed per ASTM F1216-X1.

Physical Property	Test Method	Minimum Value
Flexural Stress	#101 (Modified ASTM D-790)	4,500 psi
Flexural Modulus of Elasticity	#101 (Modified ASTM D-790)	250,000 psi

B. The RCPP shall be designed to withstand internal pressures of up to 40 PSI as a stand- alone pipe (fully deteriorated host pipe). Design calculations will be submitted to the owner for review prior to commencement of work. Burial depths of most mains are approximately 7 feet deep.

16.06 PRE-INSTALLATION PROCEDURES

The following installation procedures shall be adhered to unless otherwise approved by the Project Manager.

A. Safety - The Contractor shall carry out his operations in strict accordance with all applicable OSHA standards. Particular attention is drawn to those safety requirements involving work on an elevated platform and entry into a confined space.

B. Pre-inversion Cleaning - It shall be the responsibility of the Contractor to remove all loose debris which is located within the sanitary or storm sewer pipe.

C. Pre-inversion Inspection - Inspection of sanitary sewer pipe shall be performed by experienced personnel trained in the location of breaks, obstacles and connections by closed circuit television inspection. The interior of the pipe shall be carefully inspected to determine the location of any conditions which may prevent the proper installation of the RCPP, and it shall be noted so that these conditions can be corrected. A videotape and suitable log shall be kept for later reference by the Owner and / or Contractor.

D. Line Obstructions - If inspection reveals an Obstruction or Protrusion that cannot be removed by conventional pipe cleaning equipment, such as attached mortar, dropped joints, protruding taps, or collapsed pipe that will prevent completion of the inversion process, a point repair shall be made by the Owner, or the Owner's designated Contractor.

E. By-passing - When required for acceptable completion of an inversion process task and/or to avoid damages due to sewer spills or overflows the Contractor shall provide for sanitary water flow maintenance around the section or sections of pipe designated for the inversion process. The bypass shall typically be made by plugging the line at an existing upstream manhole and pumping the flow into a downstream manhole or adjacent system. The pump and bypass lines shall be of adequate capacity and size to handle the anticipated flow. Bypassing of sanitary sewerage into the storm water system will not be allowed.

16.07 INSTALLATION PROCEDURES

A. Wet Out - The Contractor shall wet-out the RCPP tube using distribution rollers and vacuum to thoroughly saturate the felt fiber tube prior to installation. The Contractor shall allow the Project Manager to inspect the materials and wet out procedure. A catalyst system compatible with the resin and tube shall be used.

B. Insertion - The wet out tube shall be inserted through an approved access and the application of a fluid column sufficient to fully extend it to the next designated termination point. The fluid column will be adjusted to be of sufficient height to cause the impregnated tube to hold tight against the existing pipe wall.

C. Curing - After the insertion is completed, the Contractor shall supply a suitable heat source and circulation system capable of delivering hot fluid uniformly throughout the section to effect a consistent cure of the resin. The curing schedule shall be that recommended by the resin/catalyst system manufacturer for pipeline rehabilitation.

D. Cool-down - The Contractor shall cool the hardened RCPP to a temperature below 100 degrees Fahrenheit before relieving the fluid column. A constant fluid column height is to be maintained until cool-down is completed. Care shall be taken in the release of the fluid column so that a vacuum will not be developed that could damage the newly installed CIPP.

E. Warranty - The finished CIPP shall be continuous over the entire length of an inversion run and be as free as commercially practicable from visual defects. It shall also meet the water tightness test requirements specified below. During the warranty period any defects which will affect the integrity or strength of the CIPP shall be repaired at the Contractor's expense in a manner mutually agreed to by the Owner and the Contractor. The warranty period is for one year after acceptance by the Parish.

16.08 SEALING AT TERMINATIONS

Contractor shall install an internal compression fit mechanical seal at the ends of the newly installed RCPP to prevent any leakage. Victaulic Depend-O-Lock (BRICO) end seals or approved equal are required.

16.09 TESTING

The water tightness of the CIPP shall be gauged by monitoring the water level in the inversion tube while curing. The water testing must be done directly on the finished product.

A service test will be performed after the installation is complete with the termination points exposed for inspection. The force main will be placed in service and observed for a 24 hour period. Any leaks of the rehabilitated pipe shall be corrected by the contractor at no cost to the Parish.

For each work order requested by the Owner, the Contractor shall perform a test on a sample of the cured installed liner. These tests will be conducted in accordance with Modified ASTM D-790 and shall include the following:

a. Thickness of sample
b. Flexural strength
c. Flexural modulus of elasticity

The final installed RCPP thickness must meet or exceed the minimum design thickness calculated for the installation to be deemed acceptable by the owner.

16.10 CLEAN-UP

Upon acceptance of the installation work and testing, the Contractor shall reinstate the project area affected by his operations.

16.11 POST REHABILITATION VIDEOS

At the completion of the rehabilitation of a pipe-line a video inspection CD of the completed line

segment will be given to the Project Manager by the Contractor. The Project Manager will use this inspection to determine if this line has been restored in a satisfactory fashion.

This inspection shall be performed, one section at a time, by closed circuit color television using a radial view camera. The flow entering the section being inspected shall be plugged as required and previously described. The television camera used for this inspection shall be one that is specifically designed and constructed for such conditions. Picture quality and definition shall be to the complete satisfaction of the Project Manager. If necessary, equipment shall be removed and no payment made until satisfactory inspection is made. The camera shall be pulled through the pipe slowly in order to fully inspect for any defects. Location records shall be kept by the Contractor, which will clearly show the exact location, in relation to adjacent manholes, of all house connections. A computer-generated copy of this log and data disk shall be supplied to the Project Manager. In addition to the digital MPEG video recording the contractor shall provide an analog VHS videotape and the post video, per Section 24 and 25.

16.12 PATENTS

The Contractor shall warrant to the Owner that the methods, materials, and equipment used herein, where covered by license are furnished in accordance with such license(s) and the prices included in this proposal include any and all applicable royalties and fees in accordance with such license(s). The Contractor shall warrant and save harmless the Owner against all claims for patent infringement and any loss thereof.

TECHNICAL SPECIFICATIONS
SECTION 17

SEWER MANHOLE/WET WELL REHABILITATION BY A CEMENTITIOUS LINING METHOD

17.01 SCOPE OF WORK

To provide a system for manhole reconstruction to stop inflow, infiltration, exfiltration, and restore structural integrity and provide protection against corrosion.

This specification shall govern all work, materials, and equipment required for manhole rehabilitation for the purpose of elimination infiltration providing corrosion protection, repair of voids, and restoration of the structural integrity of the manhole as a result of applying a monolithic fiber-reinforced structural/structurally enhanced Cementitious liner to the wall and bench surfaces of brick, concrete, or any other masonry construction materials.

Described are procedures for manhole preparation, cleaning, application and testing. The applicator, approved and trained by the manufacturer shall furnish all labor, equipment and materials for applying a Cementitious mix to form a monolithic liner of a minimum ½ inch thickness with machinery specially designed for application. All aspects of the installation shall be in accordance with the manufacturer's recommendation and approved by the manufacturer.

Approved lining materials are those manufactured by:
1. AP/M Permaform – Johnston, IA.
2. Engineer approved equal

17.02 PATCHING MIX

A quick setting Cementitious material, shall be used as a patching mix and is to be mixed and applied according to manufacturer's recommendations and shall have the following minimum requirements:

A. Compressive Strength (ASTM C-109)	6 Hrs. 1400 psi
B. Shrinkage (ASTM C-596)	0% at 90% R.H.
C. Bond (ASTM C-321)	28 days, 150 psi
D. Density, when applied	105+ (-) pcf

17.03 INFILTRATION CONTROL MIX

A rapid setting Cementitious product specifically formulated for leak control, shall be used to stop minor water infiltration and shall be mixed and supplied according to manufacturer's recommendations and shall have the following minimum requirements:

A. Compressive Strength (ASTM C109)

600 psi	1 hour
1000 psi	24 Hrs.

B. Bond (ASTM C-32)

30 psi	1 hour
80 psi	24 Hrs.

17.04 GROUTING MIX

A. Cementitious grout shall be used for stopping very active infiltration and filling voids and shall be mixed and applied according to manufacturer's recommendations. The Cementitious grout shall be volume stable, and have a minimum 28 day compressive strength of 250 psi and a one (1) day strength of 50 psi.

B. Chemical grouts may be used for stopping very active infiltration and shall be mixed and applied per manufacturer's recommendations.

17.05 LINER MIX

A Cementitious liner, shall be used to form a Structural/ Structurally enhanced monololithic liner covering all interior manhole surfaces and shall have the following minimum requirement at 28 days.

A. Compressive Strength (ASTM C-190)	10,000 psi
B. Tensile Strength (ASTM C-496)	600 psi
C. Flexural Strength (ASTM C-293)	600 psi
D. Shrinkage (ASTM C-596) @ 90 degrees relative humidity	0% psi
E. Bond (ASTM C-321)	130 psi
F. Density, when applied	105+ (-) pcf

1. *The Cementitious Liner* shall be made with Calcium Aluminate Cement and shall be used according to manufacturer's recommendations in applications where there is evidence of sever sulfide conditions (pH less than 3.0).

17.06 WATER

Shall be clean and potable, Questionable water shall be tested by a testing laboratory in accordance with ASTM C-04, Potable water need not be tested.

17.07 OTHER MATERIALS

No other material shall be used with the mixes described in 17.02, 17.03, 17.04 and 17.05 without prior approval or recommendations from the manufacturer.

17.08 EQUIPMENT

A. Specially designed machines consisting of an optimized progressive cavity pump capable of producing a minimum of 250 psi pumping pressure, contra-blend mixer with twin ribbon paddle with end discharge, and an air system for spray application of product, shall be used for applying the Cementitious lining.

B. The Contractor will be responsible to ensure that application and installation of the Cementitious liner is made in accordance with, and approved by the manufacturer.

17.09 PREPARATION

A. Place covers over invert to prevent extraneous materials from entering the sewer lines

B. All foreign material shall be removed from the manhole wall and bench using a high pressure water spray (minimum 1200 psi). Loose and protruding brick, mortar, and concrete shall be removed using a mason's hammer and chisel and/or scraper. Fill any large voids with quick setting patching mix (paragraph 16.02)

C. Active leaks shall be stopped using quick setting, specially formulated mixes (paragraphs 16.03 and 16.04) according to manufacturer's recommendations. Some leaks may require weep holes to localize the infiltration during the application after which the weep holes shall be plugged with the quick setting mix (paragraph 16.03) prior to the final liner application. When severe infiltration is present, drilling may be required in order to pressure grout using a Cementitious grout (paragraph 16.04). Manufacturer's recommendation shall be followed when pressure grouting is required.

17.10 INVERT REPAIR

A. After all preparation has been completed, remove all loose materials and wash wall again.

B. Any bench, invert, or service line repairs shall be made at this time using the quick setting patching mix (paragraph 16.02) and shall be used per manufacturer's recommendations.

C. Invert repair shall be performed on all inverts with visible damage or infiltration. After blocking flow through the manhole, and thoroughly cleaning invert, the quick setting patch mix (paragraph 16.02) shall be applied to the invert in an expeditious manner. The mix shall be troweled uniform onto the damaged invert extending out onto the base of the manhole sufficiently to tie into the structural/structurally enhance monolithic liner to be applied. The finished invert surfaces shall be smooth and free of ridges. The flow may be re-established in the manhole within 30 minutes after placement of the mix.

17.11 MIXING

A. For each bag of product, use the amount of water specified by the manufacturer and mix using the approved equipment and in accordance with the manufacturer's equipment.

B. Place the mix into the holding hopper and prepare another batch with timing such that the nozzleman can spray in a continuous manner without interruption until each application is complete.

17.12 SPRAYING

1st Application

A. The surface prior to spraying shall be clean, free of all foreign material, and shall be damp without noticeable free water droplets or running water, but totally saturated, just prior to application. Materials shall be spray applied from the bottom of the wall to the top, to a minimum uniform thickness to insure that all cracks, crevices, and voids are filled and a relatively smooth surface remains right after troweling. The light troweling is performed to compact the material into voids and to set the bond.

2nd Application

B. A second application is applied after the 1st application has begun to take an initial set (disappearance of surface sheen which could be 15 minutes to 1 hour depending on ambient conditions) to assure a minimum total finished thickness of ½ inch. Again, application shall be from the bottom up. The surface is then troweled to a smooth finish being careful not to over trowel so as to bring additional water to the surface and weaken it. Manufacturer's recommendations shall be followed whenever more than 24 hours have elapsed between applications. A brush finish is accepted and is applicators option.

3rd Application

C. The wooden covers shall be removed at this time and the bench sprayed such that a gradual slope is produced from the walls to the invert with the thickness at the edge of the invert being no less than ½ inch. The wall/bench intersection shall be rounded to a uniform radius the full circumference of the intersection.

Mortar shall be installed when ambient temperatures are above 40 degrees F. Applying at temperatures below 40 degrees F is not recommended.

17.13 CURING

Caution shall be taken to minimize exposure of applied product to sunlight and air movement. If application of send coat is to be longer than 15 minutes after completion of application of 1st coat, the manhole cover shall be set back in place. At no time should the finished product be exposed to sunlight or air movement for longer than 15 minutes before replacing the manhole cover. In extremely hot and arid climates manhole should be shaded while reconstruction is in process.

The final application shall have a minimum of four (4) hours cure time before being subjected to active flow.

Traffic shall not be allowed over manholes for 24 hours after reconstruction is complete.

17.14 WEATHER

Contractor will apply Cementitious lining in accordance with manufacturers requirements concerning weather conditions.

17.15 PRODUCT TESTING

Four – 2 inch cubes shall be cast each day or from every 50 bags of product used, and shall be properly labeled and sent in for testing in accordance with the Owner's or Manufacturer's directions, for compression strength testing as described in ASTM C-109

17.16 FINAL ACCEPTANCE TESTING

At the direction of the Owner or his assignee, the rehabilitated manholes shall be tested as follows:

Visually verify the absence of leaks

Perform an exfiltration test as follows:

A. For manholes 0 – 6 foot deep – If water loss is one (1) inch or less in five minutes manhole is acceptable.

B. For manholes over 6 feet deep – If water loss is one (1) inch or less plus 1/8 inch per additional foot of depth in five minutes, manhole is acceptable.

17.17 VACUUM TEST

Vacuum Test Timetable Manhole Diameter

Depth – feet	48 inches	60 inches	72 inches	96 inches
4	10 sec.	13 sec.	16 sec.	19 sec.
8	20 sec.	26 sec.	32 sec.	38 sec.
12	30 sec.	39 sec.	48 sec.	57 sec.
16	40 sec.	52 sec.	64 sec.	76 sec.
20	50 sec.	65 sec.	80 sec.	95 sec.
24	60 sec.	78 sec.	96 sec.	114 sec.
+ Each 2'	+5 sec.	+6.5 sec.	+8.0 sec.	+9.5 sec.

A. Manhole depths shall be rounded to the nearest foot. Testing times for intermediate values of manhole depth shall be interpolated. For manhole depths greater than 24 feet, the values shown in the last line of the table shall be added to the 24-foot value for each additional 2 feet of depth.

B. If the manhole or structure fails the vacuum test the Contractor shall perform additional repairs and repeat the test procedures until satisfactory results are obtained.

C. After the manhole rehabilitation work has been completed, the Contractor shall allow the manhole to be visually inspected by the Engineer. The finished surface shall be free of blisters, "runs", "sags", or other indications of uneven lining thickness. There shall be no

evidence of visible leaks,

17.18 WARRANTY

Contractor will warranty that installation of the Cementitious liner was performed in accordance with manufacturer's recommendation and **will remain free from defects, failure of the liner due to defective material, installation, or workmanship for a period of five years from the Date of Completion.**

17.19 ADDITIONAL LINER

After the rehabilitation of the sewer manhole or wet well has been completed, an epoxy- resin liner may be applied, as directed by the Owner, per Technical Specification 19 – Rehabilitation of Sewer Manholes and Wet Wells with an Epoxy Resin Liner. The product used in this section must be compatible with the epoxy line product to assure a satisfactory bond.

TECHNICAL SPECIFICATIONS
SECTION 18
FORMED-IN-PLACE CONCRETE SEWER MANHOLE REPLACEMENT WITH IMBEDDED PLASTIC LINER

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TECHNICAL SPECIFICATIONS
SECTION 19
REHABITATION OF SEWER MANHOLES AND WETWELLS WITH EPOXY RESIN LINER

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TECHNICAL SPECIFICATIONS
SECTION 20

REMOVAL AND RESTORATION OF ROADWAYS, CONCRETE CURB AND GUTTER, SIDEWALK AND DRIVEWAYS

20.01 DESCRIPTION

All work performed under this Section shall be in accordance with the appropriate section of the LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2000 edition and latest revisions), and/or Jefferson Parish Standard Details, unless modified herein or directed in the field, will apply work performed under this Section. American Disability Act (ADA) requirements as well as other Federal, State or local code requirements will apply.

This section shall include the removal and restoration of all paved and unpaved roadway and walkway areas encountered on the project. This work will include replacement of pavements, shell or stone surfaces, base courses, curbs, gutters and other improvements removed or damaged by the Contractor during the course of his Contract.

The unit price bid for a removal and replacement item shall include the cost of removal, saw-cutting as required, transportation and proper disposal of the removed material, placement AND REMOVAL of temporary walking/parking surface in sidewalk and driveway area (temporary asphalt) as well as actual permanent replacement cost.

Under no circumstances, will removed concrete or asphalt material be allowed to be stockpiled at the site. All debris is to be removed from the site at the end of the work day. The Contractor is not allowed to stockpile any new roadway bedding material in roadways overnight.

Temporary asphalt surfacing will be used in roadway/parking locations as directed by the Engineer. This asphalt will be placed upon completion of work with permanent repair being made in approximately 30 days. Payment for placement of temporary asphalt will be made under the applicable bid item.

Unless otherwise approved by the Engineer, the kind of pavement to be constructed in replacement work shall correspond with the kind removed from the area or as shown on the detail sheet. The respective kind of concrete (asphalt or Portland cement) shall be placed, shaped, and finished to establish grade and cross section by practicable means which will result in a dense, uniform-textured pavement. Abutting edges of old pavement shall be trimmed of all loose fragments and shall be painted with asphalt or thoroughly moistened with water, as appropriate, to provide good bond between the old and new pavement.

All manholes within the pavement area shall be isolated (boxed out) by means of an approved circular ring (joint) around them, square or rectangular sections using flexible joint material. Manholes in sidewalk areas will be formed so that an expansion joint is on both sides of the manhole.

All backfilled trenches shall be properly maintained by the Contractor, at no direct pay, until such time as reconstruction is begun.

Drawings included in these Contract Documents reflect "Typical roadway restoration details".

> **NOTICE:** The Contractor is responsible for notifying both the Engineer, testing lab, representative and Jefferson Parish Sewerage Capital Program at least 24 hours in advance of any placement of concrete or asphalt.

In addition, the Contractor shall be responsible for the proper and safe protection of the work area.

20.02 REMOVAL OF SURFACING

All surfaces shall be initially removed to a distance of one foot (1') outside the limits of the trench. Upon completion of all work, all concrete shall be removed and replaced to the nearest joint unless otherwise directed by the Engineer or Owner. Final removal of asphalted concrete roadways shall be to a minimum distance of three feet (3') from the edge of trench and neat lined at this point. For driveway and sidewalk removal, if a joint does not exist at the property line or in close proximity to it, then the Contractor shall make a saw-cut along this property line. There will be no direct payment for saw-cutting. Material removed shall be properly disposed of at no direct pay. There will be no direct payment for the removal of curb, which is attached to and removed with the roadway surface.

20.03 BASE COURSE

This work consists of furnishing and placing granular material for the roadway base as per plan details, and in accordance with Section 501 and 1002 of the LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (1992 Edition) unless otherwise specified.

The placement of the road base material shall be confined to the limits of the trench line. If, due to the construction operation, the adjacent base material is disturbed adverse, the Contractor shall remove and replace the material as directed by the Engineer. This work shall be done at the Contractor's cost unless the disturbance is beyond the Contractor's control.

Density tests will be taken on the roadway base materials as directed by the plans. The Contractor shall not be allowed to restore the roadway until the road base material in the trench area meet or exceed the following:

Density Requirements (Standard Proctor)

A.	Base Coarse (sand	-97%
B.	Base Course (Shell or sand/shell)	-97%
C.	Base Course (stone)	-95%
D.	Sub-base (sand)	-97%

20.04 BASE MATERIAL

Soil for base material shall be pumped sand obtained from the Mississippi River. It shall be an AASHTO Classification A-4 or better, having a Plasticity Index not to exceed "4", and a liquid not to exceed "25", and shall be free from trash, weeds, large lumps, humus, or any other deleterious matter.

20.05 ASPHALT CONCRETE PAVING

A. Permanent re-surfacing

All materials and construction under this section shall conform to Section 501 of the LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2000 Edition) unless otherwise specified. The gradation of the mix shall be Type 3, AC-30 for any temporary repairs as well as the permanent Wearing Course and Binder Course as specified in Table 1 of the referenced section. The thickness of each course is as shown on the standard details.

Saw-cutting will be required along the entire limits of the removed asphalt area; if in contract with existing asphalt.

Job Mix Formular (per latest DOTD Standards)

1.	Wearing Course	(Type 3, AC-30)
2.	Binder Course	(Type 3, AC-30)
3.	Base Course	(Type 5A, AC-30)

B. Temporary Re-surfacing

Until permanent roadway pavement surfacing is placed, temporary asphalt re-surfacing, a minimum of 2 inches thick shall be placed and maintained at locations determined by the Owner's Representative. At major intersections and critical locations, a greater thickness may be ordered. Temporary resurfacing shall be placed as soon as the condition of the backfill is suitable to receive it, and shall remain in place until the condition of the backfill is suitable for permanent re-surfacing.

The temporary asphaltic concrete shall be any type mixture listed in Section 501, except Type 5B, of the LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES (2000 Edition).

Prior to placing temporary re-surfacing, the Contractor shall level and compact the backfill on which the surfacing is to be placed. The grade of the backfill on which the re-surfacing is to be placed shall be such as to provide the full thickness of temporary re-surfacing specified. The temporary resurfacing shall be placed, rolled, maintained, and removed and disposed of by the Contractor.

20.06 CONCRETE PAVEMENT

All materials and construction under this section shall conform to Section 601 of the LOUISIANA STANDARD SPECIFICATIONS FOR ROAD AND BRIDGES (2000 Edition) unless otherwise specified.

All existing concrete pavement, curbs, walks, and driveways shall be replaced to the line, grade and thickness as existed prior to construction or as directed by the Engineer. Details of existing joints will be supplied at the time of construction. Prior to construction in an area, the Contractor shall adequately reference the existing curb and other pavement elevations to establish the pre-construction conditions.

The restored paving elevations shall correspond to the elevations established prior to construction in the area, or as modified by the Engineer, to allow for drainage of the area.

Curbs and sidewalks shall be removed to the nearest joint scorings. Concrete street panels will be removed from joint to joint, unless otherwise directed by the Engineer or Owner. Should a field condition require sawcutting the existing pavement, there will be no direct payment for sawcutting and all expenses should be included in the applicable bid item for removal and replacement of paving.

Portland Cement Concrete Requirements for roadway pavement and curbs:

a. Seven (7) sacks of cement per cubic yard
b. 2" to 4" slump
c. The use of Fly Ash in the mix **will not** be permissible

The pavement shall not be opened to traffic until a compressive strength of 4,000 psi is attained, and in no case shall the pavement be opened to traffic within a three (3) day period after the concrete has been placed.

The final roadway surface finish shall be a "Drag Finish" as defined in the LOUISIANA STANDARD SPECIFICATIONS FOR EAOD AND BRIDGES (2000 Edition) or as otherwise directed by the Department of Public Works.

20.07 CURBS, CUTTERS, AND MISCELLANEOUS

Replacement of curbs, gutters, walks, dikes, and other like structures shall consist of similar and matching construction to that of adjoining undisturbed structures, which construction shall be at least equal in respects to that of the structures removed in the work and as shown on the standard details. The replacement of items not covered in the bid form shall be handled by the Owner or through a separate contract.

20.08 TESTING REQUIREMENTS

All material and construction testing will be done as directed by the Engineer or as follows:

Asphalt Roadways:

a. One base thickness verification per 600 square yards or fraction thereof.

b. One density test on the sub-base (if applicable) and base material per 600 square yards or fraction thereof.

c. One pavement core for the thickness verification per 600 square yards of pavement or fraction thereof.

Concrete Roadways:

a. One slump test minimum per 100 cubic yards (accumulated volume) of concrete or fraction thereof

b. Four (4) cylinders minimum per 100 cubic yards (accumulated volume) of concrete or fraction thereof.

c. Independent densities, slumps, cylinders, cores, etc. will be required for isolated areas.

An initial testing shall be performed by the Parish's testing laboratory and at the Parish's expense. All costs for testing to determine compliance after the initial test shall be borne by the Contractor and deducted from payments due the Contractor. The total deductions for testing costs to be paid for by the Contractor will be included in the reconciliation of final quantities. Contractor is also responsible for all cost canceled or re-scheduled tests.

There shall be no adjustment in bid prices for pavement thickness deficiencies. If the concrete core is less than specified, two additional cores on the same slab within a five- foot (5') radius must be taken. If one of these cores is less than specified, then the entire panel (joint to joint) must be removed and additional cores on other adjacent panels within the core range (600 square yards) must be taken and the same procedure followed.

Joint Sealers: All joints in roadway surface shall be cleaned and sealed with approved joint sealant.

20.09 USE OF WIRE MESH

Wire mesh or rebar shall be used in the replacement of sidewalks, driveways, and roadways it if existed in the removed sections. The size and type used shall, at a minimum, be equal or better than that removed. There shall be no additional payment for the use of wire mesh.

20.10 CLEANING FOR ACCEPTANCE OF STREET

Prior to acceptance, the Contractor shall be required to clean up any street as a result of

construction activity, as directed by the Project Engineer/Owner's Representative.

TECHNICIAL SPECIFICATIONS
SECTION 21

TRAFFIC REGULATIONS

21.01 REQUIREMENTS

A. The Contractor shall be responsible for the development and implementation of a traffic control device plan (TCDP) which will provide for the safe and expeditious movement of traffic through construction zones. A construction zone is defined as the immediate area of actual construction, which interferes with the driving or walking public. The TCDP shall comply with the requirements set forth in the Manual on Uniform Traffic Control Devices (MUTCD), as revised, and with the general requirement stipulated below.

The TCDP for the site shall address the conditions for providing traffic flow within the zone during the influence of construction. The TCDP shall be schematically drawn of sheet(s) large enough to show adequate details and be easily readable and reproducible. If larger than eleven inches by seventeen inches (11" x 17"), the sheet(s) shall be submitted with a reproducible transparency so the Owner and Engineer can produce additional copies as needed.

The TCDP shall be designed and stamped by a Professional Engineer registered in the State of Louisiana that is qualified by education and experience to perform this work to the standards of practice established by the Louisiana State Licensing Board for Profession Engineers and Land Surveyors. This project will involve the following:

Traffic Control through Construction Zones

Urban experience in MUTCD applications, plan preparations, studies in volume, speed, and pedestrians, and tort liability.

The Contractor shall submit copies of the TCDP to the Engineer for the Owner's and Jefferson Parish Traffic Engineering Division's review and approval. Such approval is required prior to start of any work, which might affect the traffic pattern in the area.

B. Traffic Control

The necessary precautions shall include, but not be limited to, such items as proper construction warning signs, signals, lighting devices, markings, barricades, channelization, and hand signaling devices (flagging operation). The Contractor shall be responsible for installation and maintenance of all devices and requirements for the duration of the construction period.

All work shall be performed in accordance with LDOTD standard specification, 2000 edition, except as noted. In addition to items shown on the plans, traffic control devices shall be in accordance with the MUTC.

The Contractor shall be responsible for removal, relocation, or replacement of any traffic control device in the construction area, which exists as part of the normal pre-construction traffic control scheme. Any such actions shall be performed by the Contractor under the supervision, and in accordance with the Specifications, for the Department of Engineering, Traffic Engineering Division, unless otherwise specified.

The Contractor will consult with Project Engineer and the Jefferson Parish Traffic Engineering Division immediately on any vehicular or pedestrian safety or efficiency problem incurred as a result of construction of the project. If warranted, the Contractor's Engineer shall make adjustments to the TCDP and the Contractor shall immediately implement the revised TCDP.

The Contractor is responsible for daily monitoring of traffic control devices and must make appropriate changes to correspond to conditions.

The qualified Engineer shall be provided by the Contractor to inspect the job site at the beginning of the project, after significant changes, and at 30-day intervals or more frequently depending on the duration of the construction activity. A written report submitted to the Contractor, Project Engineer/Owner, and the Jefferson Parish Traffic Engineering Divisions verifying compliance with the plan, and adequacy of traffic control devices and operating conditions will be required for each inspection. All deficiencies noted by the report shall be corrected by Contractor.

Three copies of the reports shall be submitted at times required above or $500 shall be withheld from the Contractor's pay request. This money will be withheld for any month in which the report is not received, and will not be refunded to the Contractor even if reports are received at a later date.

General notes outlining procedures required by Jefferson Parish is presented in Attachment A to Section 19. The Contractor shall be required to follow these procedures during the course of his work.

As stated above, Contractor shall be responsible for development of a TCDP whenever normal traffic patterns are altered. Development of a "general" TCDP, which may be used in most residential areas on low volume streets (pending approval of the Owner) shall be considered a subsidiary obligation of the Contractor. Traffic Control Device Set Up and Traffic Control Device Operation for implementation of this TCDP shall also be considered a subsidiary obligation of the Contractor.

GENERAL NOTES

(In these notes, the term "ENGINEER" shall mean "QUALIFIED TRAFFIC ENGINEER"

1. The design and application of all signals, pavement markings, channelizing devices, and warning signs shall conform to be "Louisiana Manual on Uniform Traffic Control Devices", newest Edition as Revised, and the "Work Area Traffic Control Handbook" of Jefferson Parish.

2. Channelizing and delineation devices shall be used to mark all construction areas. These shall be Type II and/or Type III barricades, and/or barrels, all fully reflectorized with lights.

3. Any traffic control devices shall be used to mark all construction areas. These shall be Type II and/or Type III barricades, and/or barrels, all fully reflectorized with lights.

4. Any temporary devices not applying to an appropriate situation, or that are no longer required, shall be covered, removed, or obliterated by the Contractor.

5. The roadway and all traffic control devices shall be restored to original conditions by the Contractor.

6. All excavation shall be covered, backfilled, or protected as directed by the Project Engineer, fully delineated (See Note 2) at night and when work is not in progress. Excavated pits, etc. shall be fully fenced or barricaded (See Note 2) to prevent access by pedestrians

7. All materials/machines shall be stored outside of the road surface. Creating no sight problems, and fully delineated as in Note 2.

8. If sections of roadway are totally closed, the Contractor shall notify the Sheriff's Traffic Division, 911 Operations, the Fire Department, and any major traffic Generators (i.e. schools, etc.). A three working day, minimum, advance notice will be required.

9. On totally closed sections of the roadway, the Contractor shall provide access for local traffic only.

10. Barrels used for channelizing and delineation devices as part of this traffic control device plan shall be weighted with sandbags, fully reflectorized, with lights.

11. The Contractor shall check traffic control devices on a daily basis as a minimum when beginning and ending the work day, to insure adherence to the plans and proper adequacy of devices for day and night visibility. On weekends, devices shall be checked a minimum once per day.

12. The Engineer shall inspect the job site at beginning and end, after significant changes, and at 30-day intervals, a written report shall be submitted to the Contractor and Jefferson Parish Department of Public Works Department of Public Works verifying compliance with the plan and adequacy of traffic control devices and operating conditions. All deficiencies noted by the report shall be corrected by the Contractor. The Contractor shall notify the Engineer immediately of any significant changes to the traffic control devices and operating conditions.

13. Flagman and/or Sheriff's control shall be provided as needed and specified by the Engineer.

14. At the time of construction, any additional traffic control devices which may be required by the Engineer, the Jefferson Parish Department of Public Works, or the Contractor shall be provided by the Contractor

15. Yellow, high visibility pennant barrier flagging (nylon rope with plastic pennants) shall be strung between Type II barricades and barrels/drums, only as directed by the Engineer.

16. This traffic control device plan indicates general traffic control devices to be used on this project. It is anticipated that conditions will vary depending on the phase under construction and that the arrangement of those devices will be reviewed on a day-to-day basis. Should the Contractor have any question as to the arrangement of those devices, the Engineer shall be notified to make an inspection of the site.

17. Contractor shall provide for the movement of pedestrians for the entire length of the contract. As much as possible, the Contractor shall not obstruct existing sidewalks, thereby obstructing pedestrian movements. If existing sidewalks must be obstructed, the Contractor shall provide for the movement of pedestrians by posting appropriate signing, such as, "Sidewalk Closed – Use other Side of Street". Signing shall be reflectorized, and lighted at night. Also, where trenches are excavated outside the roadway surface, the Contractor shall provide each dwelling a lease one accessible crossing of the backfilled trench area, for use by pedestrians.

18. As much as possible, the Contractor shall provide access to area business.

TECHNICAL SPECIFICATIONS
SECTION 22

BY-PASS PUMPING

22.01 SCOPE OF WORK

This section shall include furnishing all equipment, labor and materials necessary to set-up, operate and maintain by-pass pumping. The Engineer will determine the quantities and disposition of water to be pumped and the Contractor shall provide the necessary equipment to meet these minimum requirements.

22.02 PLUGGING OR BLOCKING

It shall be the responsibility of the Contractor to provide and install the required plug and blocking in the line. This plug shall be inserted into the line at a manhole immediately upstream from the section of line being repaired or inspected. The plug shall be so designed that any portion of sewer flow can be released through the line. After all work has been completed, the plug and all blocking shall be removed from the manhole.

22.03 PUMPING AND BY-PASSING

When pumping/by-passing is required, the Contractor shall supply the necessary pumps, conduits, and other equipment to divert the flow of wastewater around the work site. By-passed sewerage shall be diverted to the system below the work site and not into the storm drainage system. The by-pass system shall be of sufficient capacity to handle existing flows plus additional flow that may occur during periods of rain.

For projects, which are considered to last longer than one normal work day, only submersible or above ground pumps with electric motors will be acceptable without prior approval of the Engineer. The Contractor shall be responsible for supplying the required electrical feeds, electrical power, labor and supervision to set up and operator the pumping and by-pass system.

The Contractor must take every precaution to ensure that the plugging and by-passing of sewer flow does not cause flooding or damage to public or private property being served by the sewers involved.

TECHNICAL SPECIFICATIONS
SECTION 23

REQUEST FOR PAYMENT

PART 1 – GENERAL

23.01 REQUIREMENTS INCLUDED

Submit applications for payment to the Engineer in accord with the schedule established by Conditions of the Contract.

23.02 FORMAT AND DATA REQUIRED

A. Submit payment requests in the form required by Owner with itemized data typed on 8 ½" x 11" white paper continuation sheets.

B. Provide itemized data on continuation sheet: Format, schedules, line items and values.

23.03 SUBSTANTIATING DATA FOR PROGRESS PAYMENTS

A. All payment requests must be accompanied by a completed pay request checklist and must include a signed affidavit regarding previous payment received, a short progress narrative describing work performed since previous payment submittal. The pay request checklist form shall be as provided as follows. All items required on the checklist must be included with each pay request for the request to be considered.

B. When the Owner or the Engineer requires additional substantiating data, the Contractor shall submit suitable information, with a cover letter.

C. Submit one copy of all data required with a cover letter for each monthly pay request. Any additional substantiating data requested shall also be submitted as required in Part B above.

23.04 PREPARATION OF APPLICATION FOR FINAL PAYMENT

A. Fill in application form as specified for progress payments.

B. Use continuation sheet for presenting the final statement of accounting.

23.05 SUBMITTAL PROCEDURE

A. Submit applications for payment to the Engineer at the times stipulated in the Agreement

B. Number: Five copies of each application

C. When the Engineer finds application properly completed and correct, he will transmit certificate for payment to the Owner, with copy to Contractor

PAY REQUEST CHECKLIST

PARTIAL PAY REQUEST:

Progress Narrative _____
Schedule of Values _____
Affidavit Re: Previous Payments _____

FINAL PAY REQUEST

Application for Payment
(w/ final statement of accounts) _____
Clear L & P Certificate _____
Warranties & Bonds _____
Consent of Surety to Final Payment _____

TECHNICAL SPECIFICATIONS
SECTION 24

FIELD INSPECTION REPORTS

24.01 DESCRIPTION

This work shall consist of the preparation of Field Inspection Report(s) required during various stages of the Service Agreement work Progression. The Field Inspection Report(s) to be prepared shall be generated through the Peninsular Technologies, LLC PipeTech Software or GBA Master Series. This work shall be considered incidental to the cost of the associated fieldwork to create and acquire all pertinent data.

24.02 PRE-REHABILITATION SUB-SYSTEM EVALUATION

A. The Contractor shall submit to the Owner, Within 6 Weeks from completion of the field inspection work, (including pipe inventory, physical inspection of manholes, smoke testing, dye-water flooding, and television inspection work) but not limited to the following:

For field inspection work:

1. An updated pipe inventory obtained from field survey.
2. One bound computer generated hard copy report per sub-system evaluated for each type inspection performed pipe inventory (manhole physical inspection, smoke testing, and/or Condition Assessment CCTV inspection)
3. Media containing appropriate data and visual inspection results:
   Manhole Inspection – Digital JPEG images.
   Smoke Testing – Digital JPEG images of leaks.
   CCTV Inspection – Digital MPEG video as specified in Section 25.

B. The Contractor shall submit to the Owner a complete evaluation report of CCTV television inspection. This report shall be produced using GBA Master Series TV Inspection Report and data processing equipment specifically designed to record and transfer all information gathered during the CCTV inspection as noted in Section 25.

C. There will be no additional compensation paid to the Contractor for the first set of inspection reports and videotapes provided to the Owner.

D. All evaluation reports shall also include the following:

Map Changes – Forms noting any field variances from Owner provided work orders and/or maps.

Critical Damage Reports – Forms noting any defects or observations encountered in field inspection activities, which may indicate immediate failure, interruption of service, or sewer overflow may occur.

Cover Letter – A brief narrative describing any major issues of identified during field inspection activities.

Glossary – A listing of any Contractor, software, or inspection report specific abbreviations and terminology, which may need to be clarified.

Appendix – Any original field forms used to collect data should be included as appendices.

24.03 POST REHABILITATIN REPORT UTILIZING GBA MASTER SERIES

The following shall be submitted to the Owner as noted in Section 25

A. A videotape with pre-rehabilitation and post-rehabilitation video inspections for any CIPP rehabilitated line segments.

B. A computer-generated report detailing each line segment rehabilitated with any restored or CIPP rehabilitated service connection locations noted. Report should be provided using GBA Master Series

C. A printed pipe inventory of all line segments included in the post-rehabilitation report.

D. An upload disk including all pertinent data modified by rehabilitation activities, including but not limited to: television inspection, manhole inventory, etc. in GBA Master Series Format

24.04 HISTORY

The Contractor shall be required to prepare an electronic digital of "activity history records" for all inspection, repair, and rehabilitation efforts performed on this contract. This data upload shall be prepared and transferred using the GBA Master Series Field Work Module.

24.05 POST DIGITAL VIDEO COLLECTION IMPLEMENTATION VHS TAPE CONVERSION

In the event that the Owner must retroactively convert prior video inspection data, the Contractor shall provide the capability to convert this pre-existing data and associated video into the format specified herein.

TECHNICAL SPECIFICATIONS
SECTION 25

NEW DATA MANAGEMENT SYSTEM

25.01 General

Jefferson Parish utilizes GBA Master Series™ SewerMaster to facilitate the complex task of managing work performed by Parish forces and outside contractors/consultants. Throughout the normal management of the Parish's wastewater collection system, vast amounts of data are collected. During the term of this contract Jefferson Parish plans to change and upgrade its data collection software and data requirements. The data collection software will be Peninsular Technologies' PipeTech® Software Suite.

25.02 DIGITAL VIDEO/AUDIO RECORDING

A. Digital Recording: The digital recording shall include both audio and video information that accurately reproduces the original picture and sound of the video inspection. The video portion of the digital recording shall be free of electrical interference and shall produce a clear and stable image. The audio portion shall be sufficiently free of background and electrical noise as to produce an oral report that is clear and discernible.

B. Separate MPEG Video files shall be created for each pipe segment inspected. If a reverse setup is required, the individual portions of that pipe segment shall be stored in separate MPEG Video files.

C. The pipeline inspection shall consist of identifying a location both within the pipe segment (physical location) and within the digital recording (video frame location) for each defect or observation. The use of time codes for defect location shall NOT be deemed equivalent or acceptable. This will allow the digital recording and inspection data to be cross-referenced for instant access to any point of interest within the digital recording.

25.03 DATA STORAGE

A. Inspection information shall be stored in a relational database management system that employs relationships to increase data integrity and reduce data storage space.

B The inspection information shall include the Digital Recording of video and audio, Segment Identification information (Starting MH, Date, Time, etc.), Observation Information (Observation Code, Location, Clock Position, etc.) including a pointer from each observation to the digital recording (Video frame Number), and any accompanying digital still images (JPEG or BMP).

C. All inspection information shall be written to digital media for archival and future review purposes.

Following the completion of the Integration Software, Peninsular Technologies (PenTech) or approved equivalent in conjunction with GBA, shall the software at a Parish approved location. PenTech or approved equivalent and GBA Master Series™ shall provide adequate training on the software and allow the Parish to test the quality of the integration. Any problems with the integration will be noted for modification of the software.

25.04 CCTV SOFTWARE

The Parish utilizes Peninsular Technologies PipeTech Software for field video acquisition and quality control. The acquisition of field data acquisition software by the Parish shall be made a part of this contract. The following packages shall be provided by the contractor under pay items in the bid documents.

A. Pipe Tech Scan provides for the in-field digital acquisition of sewer video inspection data. Scan captures and compressed video in real time. Defects and observations are entered on an electronic log sheet and cross referenced with the video. Field reports can be generated fro Scan.
B. Pipe Tech Check & View provides for the playback of the digital sewer video inspection data and allows for editing prior to placing on a CD. View allows for viewing of the data once scanned and edited. Scenes can be skipped and final reports can be generated from View.

25.05 George Butler & Associated (GBA) Master Series Infrastructure Management Software.

To facilitate the efforts by the Parish to manage its wastewater infrastructure needs, the Contractor shall be required to utilize the GBA Master Series Wastewater Collection Management System to electronically store and analyze field data from video inspection and sewer rehabilitation tasks. The Contractor shall deliver to the Parish field upload of the most recently completed work at the owner's request. The acquisition of this software and license shall be reimbursed by the owner via the appropriate pay item.

TECHNICAL SPECIFICATIONS
SECTION 26

CONTRACT CLOSEOUT

PART 1 - GENERAL

26.01 REQUIREMENTS INCLUDED

Comply with requirements stated in Conditions of the Contract and in specification for administrative procedures in closing out the work

26.02 FINAL ADJUSTMENT OF ACCOUNTS

A. Submit a final statement of accounting to the Engineer

B. Statement shall reflect all adjustments to the Contract Sum:
   1. The original Contract Sum
   2. Additions and deductions resulting from:
      a. Previous Change Orders
      b. Unit Prices
      c. Penalties and Bonuses
      d. Deductions for liquidated damages
      e. Deductions for re-inspection payments
      f. Other adjustments
   3. Total Contract Sum, as adjusted.
   4. Previous payments
   5. Sum remaining due

C. Engineer will prepare a final Change Order, reflecting approved adjustments to the contract sum, which are not previously made by change orders.

26.03 FINAL APPLICATION FOR PAYMENT

Contractor shall submit the final application for payment in accordance with procedures and requirements stated in the conditions of the contract.

26.04 CONTRACTOR'S CLOSEOUT SUBMITTALS TO ENGINEER

A. Project Record Documents

B. Warranties and Bonds

C. Evidence of Payment and Release of liens: To requirement of General and Supplementary Conditions

D. Certificated of Insurance for Products and Completed Operations

TECHNICAL SPECIFICATIONS
SECTION 27
SPECIAL PROJECT PRODECURES

27.01 PROJECT MEETINGS

A. Engineer shall schedule and administer the pre-construction meeting, periodic progress meetings, and specifically called meetings throughout progress of the work. Representatives of contractors, sub-contractors, and suppliers attending the meetings shall be qualified and authorized to act on behalf on the entity each represents.

B. Engineer shall schedule a pre-construction meeting prior to beginning of construction. The pre-construction meeting shall be held at a central site, convenient for all parties, designated by the Engineer. Attendance at the pre-construction meeting shall include Owner's representative, Engineer, Resident Project Representative, and Contractor's superintendent. The pre-construction meeting shall consist of at least the following items:

1. Designation of responsible personnel
2. Submittals
3. Requests for Payment
4. Procedures for maintaining Record Documents

27.02 HOUSE CONNECTION REPLACEMENT PRIOR TO CIPP

For deteriorated or damaged connections, or ones, which are protruding and cannot be cut internally, the Contractor will excavate and make the repair prior to installation of the CIPP.

27.03 HAZARDOUS LOCATIONS

A. The existing manholes or other confined spaces may be hazardous in that explosive concentrations of sewage gas and/or deficient oxygen levels may be present. A direct reading combustible gas indicator and oxygen meter will be utilized to establish explosive gas concentrations and oxygen levels prior to entry. Oxygen levels between 19.5% and 21.4%, and Lower Explosive Limit (LEL) levels below 10% will be required for entry without personnel protection equipment. Readings for hydrogen sulfide levels will be obtained prior to entry. Entry without personnel protection equipment will be allowed for hydrogen sulfide concentrations below concentrations of 10 parts per million (ppm). All personnel entry in these areas shall be in strict accordance with OSHA standards for confined space entry including but not limited to Code of Federal Regulation 1910.146.

B. The contractor shall also instruct and prohibit his employees and the employees of his sub-contractors from smoking while in the hazardous areas. Suitable prominent "No Smoking" signs shall be placed at locations indicated by the Engineer.

INSURANCE REQUIREMENTS

All insurance requirements shall conform to Jefferson Parish Resolution No. 95466 dated 01/23/02

The contractor shall not commence work under this contract until he has obtained all insurance and complied with the requirements of the specifications and Resolution No. 95466.

WORKER'S COMPENSATION INSURANCE

As required by Louisiana State Statute, exception; Employer's Liability, Section B shall be $1,000,000 per occurrence when Work is to be over water and involves maritime exposures to cover all employees not covered under the State Worker's Compensation Act, otherwise this limit shall be no less than $500,000 per occurrence.

COMMERCIAL GENERAL LIABILITY

Shall provide limits not less than the following: $1,000,000.00 Combined Single Limit per Occurrence for bodily injury and property damage.

COMPREHENSIVE AUTOMOBILE LIABILITY

Bodily injury liability $1,000,000.00 each person; $1,000,000.00 each occurrence. Property Damage Liability $1,000,000.00 each occurrence.

DEDUCTIBLES

No insurance required shall include a deductible not greater that $10,000.00. The cost of the deductible be borne by the contractor.

UMBRELLA LIABILITY COVERAGE

An umbrella policy or excess may be used to meet minimum requirements.

CONSTRUCTION AND RENOVATION PROJECTS REQUIRE THE FOLLOWING:

OWNER'S PROTECTIVE LIABILITY

To be for the same limits of liability for bodily injury and property damage liability established for commercial general liability.

BUILDER'S RISK INSURANCE

The contractor shall maintain Builder's Risk Insurance at his own expense to insure both the owner (Parish of Jefferson) and contractor as their interest may appear.

AFFIDAVIT

STATE OF LOUISIANA
PARISH OF JEFFERSON

BEFORE ME, THE UNDERSIGNED AUTHORITY, PERSONALLY CAME AND APPEARED _____, WHO AFTER BEING BY ME DULY SWORN, DEPOSED AND SAID THAT HE IS THE FULLY AUTHORIZED_____OF_____ (HEREIN AFTER REFERRED TO AS BIDDER) THE PARTY WHO SUBMITTED A BID FOR _____ WHICH BID WAS RECEIVED BY JEFFERSON PARISH ON _____ AND SAID AFFIANT FURTHER SAID:

1) That bidder employed no person, corporation, firm, association or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the bidder whose services in connection with the construction of the public building or project or in securing the public contract were in the regular course of their duties for bidder; and
2) That no part of the contract price received by bidder was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the contract, other than the payment of their normal compensation to persons regularly employed by the bidder whose services in connection with the construction of the public building or project were in the regular course of their duties for bidder.
3) Said bid is genuine and the bidder has not colluded, conspired or agreed directly or indirectly with any other bidder to offer a sham or collusive bid.
4) Said bidder has not in any manner, directly or indirectly, agreed with any other person to fix the bid price of affiant or any other bidder, or to fix any overhead, profit or cost element of said bid price, or that of any other bidder, or to induce any other person to refrain from bidding.
5) Said bidder is not intended to secure an unfair advantage of benefit from the Parish of Jefferson or in favor of any person interested in the proposed contract.

_____

SWORN TO AND SUBSCRIBED
BEFORE ME THIS _____
DAY OF_____, 20_____

_____

NOTARY PUBLIC

Revised 8/24/05

CORPORATE RESOLUTION

EXCERPT FROM MINUTES OF MEETING OF THE BOARD OF DIRECTORS OF

_____

INCORPORATED.

AT THE MEETING OF DIRECTORS OF _____
INCORPORATED, DULY NOTICED AND HELD ON _____,
A QUORUM BEING THERE PRESENT, ON MOTION DULY MADE AND SECONDED. IT WAS:

RESOLVED. THAT _____, BE AND IS HEREBY APPOINTED, CONSTITUTED AND DESIGNATED AS AGENT AND ATTORNEY-IN-FACT OF THE CORPORATION WITH FULL POWER AND AUTHORITY TO ACT ON BEHALF OF THIS CORPORATION IN ALL NEGOTIATIONS, BIDDING, CONCERNS AND TRANSACTIONS WITH THE PARISH OF JEFFERSON OR ANY OF ITS AGENCIES, DEPARTMENTS, EMPLOYEES OR AGENTS, INCLUDING BUT NOT LIMITED TO, THE EXECUTION OF ALL BIDS, PAPERS, DOCUMENTS, AFFIDAVITS, BONDS, SURETIES, CONTRACTS AND ACTS AND TO RECEIVE AND RECEIPT THEREFOR ALL PURCHASE ORDERS AND NOTICES ISSUED PURSUANT TO THE PROVISIONS OF ANY SUCH BID OR CONTRACT, THIS CORPORATION HEREBY RATIFYING, APPROVING, CONFIRMING, AND ACCEPTING EACH AND EVERY SUCH ACT PERFORMED BY SAID AGENT AND ATTORNEY-IN-FACT.

I HEREBY CERTIFY THE FOREGOING TO BE A TRUE AND CORRECT COPY OF AN EXCERPT OF THE MINUTES OF THE ABOVE DATED MEETING OF THE BOARD OF DIRECTORS OF SAID CORPORATION, AND THE SAME HAS NOT BEEN REVOKED OR RESCINDED.

_____
SECRETARY-TREASURER

_____
DATE